





Wm Wood

3285

MANUAL

OF

PHYSICAL EXERCISES:

COMPRISING

GYMNASTICS,
ROWING,
SKATING,
FENCING,
CRICKET,

CALISTHENICS,
SAILING,
SWIMMING,
SPARRING,
BASE BALL.

TOGETHER WITH

RULES FOR TRAINING AND SANITARY SUGGESTIONS.

BY WILLIAM WOOD,

INSTRUCTOR IN PHYSICAL EDUCATION.

With One Hundred and Twenty-five Illustrations.

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P R E F A C E .

IN presenting to the public this work, I feel very sensibly my inadequacy in appearing in the capacity of an author. Trained almost from infancy to a profession which rendered mental study impossible, and having only by dint of perseverance got what little education has fallen to my share in much the same manner that a chicken gets his breakfast—picking up a kernel of information in one corner and another in the next—all the acquirements which I pretend to claim are based alone upon the common branches of English learning and common sense. Yet, it seems to me, a man who has mastered any thing worth knowing may, if he will simply tell what he has learned, write something which it will be of advantage to others to read. I have written what I know, and what I judge would be well for others to know.

I have been for many years engaged as an instructor in Gymnastic and Athletic Exercises. Very many of the first families of the City of New York have been members of my institution. The young, the middle-aged, and the old can testify to the benefits derived while they were members of the same.

My chief design in writing this work is to promote a love for physical culture. Is not such culture needed? Look at the great number of our young men and women, and see what a narrow-chested, sallow-complexioned, slight-formed race they are. But, thank God, this will soon pass away. Institutions for Physical Education are springing up in all parts of our country. Our great men of learning, presidents of nearly if not quite every college or university in the land, have lent their aid to promote the good work. Our students hereafter will graduate not only with clear heads but with sound bodies.

Far be it from me to advise less attention to be paid to the mind. But it is certain that an unhealthy body will sooner or later affect the mind. Moreover, no man lives for himself alone. The present generation are fathers and mothers of generations to come. By the fixed laws of nature, the present gives impress to the future, as the past has given form to the present. The children of healthy parents will, as a rule, be healthy. The children of infirm parents, as a rule, will be infirm.

Every one should therefore feel that the strength and character of future generations depend upon the more frequent use of Gymnastic and Out-door Exercises. Athletic culture is intended to restore the just proportion of the two principal parts of human Education—Mental and Physical. It is the bounden duty of every person to take care of the Body, and develop it as well as the

Mind : consequently Gymnastic Exercises should form an essential part of Education.

Where man exists, there Athletic Games have or at least ought to have a place. They are the property of mankind ; not confined to any nation or country. They will, of course, assume a different form in different climates and different states of civilization, etc., but the essence remains the same—culture of the human body.

In conclusion, I venture to express the hope that this work may foster a taste for Physical Culture, to the end that the Body and Mind may both be improved.

All good works that we do in this world inspire us with a love that is pure in thought, beautiful in expression, and moral in tendency.

WM. WOOD.

NEW YORK, *August*, 1867.

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1.

Gymnastics and Calisthenics.

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MANUAL OF PHYSICAL EXERCISES.

CHAPTER I.

PRELIMINARY.

I PROPOSE in the outset to give a brief general resumé of the topics which will be presented at length in the successive chapters of this work:

Gymnastics and Calisthenics.—One thousand different and distinct exercises, from the simplest motion suitable for children and invalids, to the most difficult for the gymnast and athlete. These will be fully illustrated in the proper place.

Rowing and Sailing.—Upon these beautiful and invigorating exercises, pastime and amusement, I flatter myself that I am fully competent to speak and instruct, having had much practical experience. To the beginner I promise that rowing will be made easy, and to many who have become more or less proficient, that their skill and science in handling the oars or sculls will be enhanced. The correct position of the body, the position of the hands upon the oars or sculls, the stroke, the placing of the oar in the water, the “feathering,” or finishing of the stroke, will be fully explained. I shall give full and ample directions as to what should be done, and when and how to do it. I shall present sugges-

tions for the management of crews of four, six, and eight oars. I shall give plain and simple rules for the management of sail-boats. I shall show how to control and work them without the use of rudder or oar. I shall give a record of boating in the United States, from 1824 to the present time; shall note the contests between the English universities of Oxford and Cambridge for the last thirty-six years; shall give the "time" of each crew, and also that of "Professionals," whether with sculls or oars, with the weight of each man. I shall furnish such other information upon this subject as may seem advisable.

Fencing.—This art stands unrivaled both as an accomplishment and as an exercise. It is scientific and at the same time graceful; and it is in this sense that it will be treated. Fencing causes more muscles to act at the same time than almost any other exercise. It promotes the expansion of the chest and improves respiration, whereby the functions of the most important organs of the body are more perfectly performed. The French and German schools will be explained and made easy by eighty different exercises; it will be so plain and so well illustrated, that passing through the school will be a pleasant exercise and the practice a pleasure. The illustrations in this chapter will be copies from photographs taken from experts in actual position. They will therefore show every movement and attitude involved in the art.

Cricket.—The game of Cricket is one of the noblest of English pastimes. It combines athletic power, grace, quickness of eye and of hand, nimbleness of leg, and scientific skill. In England it is played by high and low, rich and poor, man and boy. I shall describe the origin of the game of single and double wicket; shall show the arrangement of the field; shall lay down the recognized laws of the

game; shall note the duties of umpires; and shall append general hints upon dress and the like.

Swimming.—I shall explain the first practice before entering the water; shall treat of aids to swimming; striking out; plunging and diving; of swimming under water, on the side or on the back, without using the feet; of floating; of treading water; of the fling on the back; of the double thrust, to imitate the swimming of a dog; of the wheel backward and forward. I trust that this chapter will be of special service. This is an accomplishment so easily acquired, and so invaluable to every one, whether as a means of personal preservation or of saving others, that no one can be justified in neglecting to acquire it. Next after reading and writing, every youth of either sex should be taught to swim.

Skating.—In this chapter will be found general directions to be followed by those learning to skate: the forward roll, back roll, and the Dutch roll; inside edge and the outside edge; the Figure 3, Figure 8. I shall also give directions for the modes of exercise adapted to strengthen the lower limbs, to give firmness and balance to the body, and how to obviate the danger of taking cold while engaged in this fascinating exercise.

The Indian Club.—This is a very graceful and beneficial exercise. It is easily acquired, and can be practiced at the office or dwelling of every person. The whole upper part of the body from the waist is called into action; and these are the very parts that require practice, especially in those who lead a sedentary mode of life. To all, this exercise will be found to do good service in strengthening and improving the system. In this exercise very little muscular exertion is required at first. The clubs range in weight from four to forty pounds. The beginner will of course commence with the light club, or those in proportion to his

strength; and as he improves in skill and power, he will increase the weight. I shall give fifty separate and distinct motions. Many of the plainer ones ladies might practice, and find them of immense good in expanding the chest and improving the form and carriage. The explanations will be so plain and the illustrations so perfect, that any one will be enabled to use the clubs without the least trouble or inconvenience.

Base Ball.—This may be truly called the American National Game. There is scarcely a city or town or village in the United States where this invigorating and manly exercise is not to some extent enjoyed. I shall describe the rise and progress of Base Ball; shall give the Rules and Regulations of the National Association, with a diagram of the ground and correct measurements, and the position of each player. I shall give full instructions for batting, and set forth the duties of umpires. In brief, I propose that this chapter shall be in itself a Manual of our National Athletic Game.

Boxing or Sparring.—It is only within a few years that this exercise has with us been practiced to any extent. I wish it to be distinctly understood that I shall treat of it only as an exercise in gymnastics, although I am satisfied it has other advantages, the principal one of which is that it gives self-confidence in one's own ability in the hour of trial or danger. The practice of it renders every part of the body quick, active, and capable of preserving the balance in almost every position. And instead of feeling timid in time of danger, as many nervous men are apt to do, one who has acquired this art, even to a moderate degree, will remain cool and collected, for the exercise that he has taken will not only have strengthened his muscles, but will also have improved his whole nervous system. He will not be apt to

lose presence of mind at the moment it is most needed. Take for example, a man of weak nerves, possessing no knowledge of sparring or how to defend himself: he would be so frightened at the appearance of danger as to be utterly unable to make any resistance. I assert without the fear of contradiction that the knowledge of sparring even to a limited extent would, if walking with wife, mother, sister or friend, and being insulted by a rowdy, make him feel more confidence that he was able to stand up like a man, and protect those in his charge, and hand the bully over to the hands of the proper authorities.

Every physical accomplishment is, like every other good thing, liable to abuse or misuse. The accomplished penman may become a forger; but that is no reason why a man should not learn to write neatly or elegantly. A gentleman will use but never abuse the knowledge of the art of self-defense; and I write only for gentlemen. I speak from personal knowledge when I say that many of our first men in this country have taken lessons and acquired the knowledge of sparring well. Among these are statesmen, ministers, physicians, lawyers, and besides many of the most wealthy and respectable men in the city; and they will all, without exception, acknowledge that they have been benefited and much pleased with the exercise. It strengthens and gives tone to the muscles, quickens and improves the eye, and in fact invigorates the whole body.

Corpulency.—In this chapter will be found hints on corpulency, and directions how to prevent and how to remove it.

The foregoing are mere hints as to the general scope of the topics which will be treated in this work, which I shall aim to render what its title imports: A complete "Manual of Physical Exercises," and therefore in no inconsiderable degree a Guide to Health.

To give instruction upon these subjects has been the occupation of my life. I look upon it as a profession, which if worthily pursued is eminently worthy, adding as it does to the sum of human happiness and well-being.

CHAPTER II.

SANITARY BENEFITS OF GYMNASTICS.

THE introduction of gymnastic exercises into the system of education will constitute a remarkable epoch in the annals of history. The social order has long claimed securities which the real interest of nations will no longer admit of being deferred, as there are not only laws but institutions which reason and the wants of the age imperiously demand.

The great object of exercise during infancy and youth is to promote the growth and strength of the body and to render the perceptions more acute. The games and diversions of children, therefore, should be directed toward good and useful habits, and against the introduction of bad ones. Nature has implanted in the young an earnest desire to romp, to run, to play at ball, and to use other bodily exercises. The construction of the human body proves indeed that it needs exercise in order to enjoy perfect health. Physical exercise is as necessary in the early stages of life as mental education. It is astonishing how many perish by what may be fitly termed the disease of education. Multitudes die every year of this disorder. It should never be forgotten that the human being consists of body as well as of mind, and that both, being the work of the Creator, deserve our utmost care. In order of time, indeed, the culture of the body takes precedence of that of the mind; after a while they go on together. The grand secret of educa-

tion is that the exercise of the body and that of the mind should be so continued as always to serve as a relaxation from each other.

The exercises of youth should promote the circulation of the blood and strengthen the nerves and muscles; they should accustom the body to a variety of positions and render it adroit and agile; they should inspire presence of mind, and excite and cherish activity. By them, not only personal strength and mental energy, but also the beauty of the form should be promoted. It is well known that by the forcible respiration which exercise induces, narrowness of the chest, which is so injurious to the lungs, may be prevented.

On the subject of agreeable exercises in general, it has been justly mentioned as a subject of regret, that in this city, with its immense and growing population, gymnastic exercises are so little practiced. Thirty minutes each day to exercise would be of the greatest service to those who are not under the necessity of laboring for their support. As active diversions lose ground, those of a sedentary kind come to prevail. The latter, however, are of no use but to consume time. Instead of relieving the mind, they often require more thought than either study or business. In fact, every thing which induces young persons to sit still, unless it be necessary employment, ought to be avoided. The ancients, in general, had so high an opinion of gymnastics, that Plato, Aristotle, Cicero, Caesar and others considered a commonwealth defective in which they were neglected. They reasoned thus: As the improvement of the *mind*, which ought to be our constant aim, can not be accomplished without the aid of the *body*, it is incumbent upon us to promote the health and strength of the one, that it may be capable of serving the other. Hence *Plato* calls

him a "cripple who, cultivating his mind alone, suffers his body to languish through inactivity and sloth."

If only some of the many advantages resulting from physical exercise were to be procured by any one medicine, nothing in the world would be in so much esteem or more anxiously sought after. But we too often slight the advantages which are to be procured by other means than medicine, when they can not be obtained without trouble. Hence exercise is neglected, though by attending to it, many of these disorders to which mankind often fall a sacrifice might be prevented.

There was a time, we are told, when diseases were little known; when age was the great infirmity, and death the sole physician. That could only be the case when men by labor or abundant exercise promoted a regular and complete circulation of the blood, or by great exertion freed their bodies from impurities; or by constant exposure to the open air, were hardened against the changes of the seasons, and suffered no inconvenience from them. By such means as these we might consider ourselves completely secured against three-fourths of the usual catalogue of diseases.

The necessity of labor or exercise to promote the regular and complete circulation of the blood is evident from the circumstance that the strength of the heart and arteries alone in a sedentary course of life is by no means sufficient to keep up and perpetuate with sufficient efficacy that circulation throughout the smaller blood-vessels. The assistance and combined force of all the muscles of the body acting at proper intervals are essential for that purpose. Without this extraordinary aid, which can only be procured by exercise, the smaller vessels are in process of time choked, and the delicate springs of our frail machines lose their activity and become weakened, from which numberless evils

of the chronic kind, and every species of nervous disorders take their origin.

Every physician will inform you that the principal source of our well-being arises from the circulation of the fluids, especially the blood. A brisk circulation animates the whole man. Even the phlegmatic person is exhilarated when any thing puts his blood in motion. These effects are well known. Continued inactivity weakens the circulation, until at length the blood creeps feebly through its channels, for the heart is not of itself sufficient to give it due impulse to accomplish this necessary result. Muscular movement is likewise requisite. Rest of the body for any great length of time relaxes the muscles, diminishes the vital heat, checks perspiration, injures digestion, enfeebles the whole frame. And thus numberless diseases are induced. There is not a single part of the human machine which a sedentary mode of life does not debilitate; but the nerves more especially suffer from this cause.

Sedentary life is the prolific source of a great part of those diseases which physicians call *Cachectic*, the number of which in our country is very great. To prevent these, exercise is the best means: it will strengthen all the vessels, preserve the fluids in a healthy state, and in fact give vigorous strength to all the vital powers. The "Cordials," "Balms of Life," "Braces," "Blood Purifiers," "Strengtheners," and so forth, that are so extensively advertised and circulated in and through every large city, only tend to arouse an increased circulation for a few hours; but their action soon subsides: the stimulus ceases: and they must be repeated in increased quantities, and continued during life.

The circulation of the blood indeed can only be properly carried on through the medium of exercise or labor. No Art in the shape of medicine can ever become equal to Na-

ture in this most salutary of all her operations. That sprightly vigor and alacrity of health which we feel and enjoy in an active course of life; that zest of appetite and refreshment after eating, which sated luxury seeks in vain from art, is entirely owing to new blood made each day from fresh food, prepared and distributed by the joint action of all parts of the body. Not only must the blood be duly circulated, but it must also be cleared from impurities; and this can only be done or effected by exercise. The digestive powers are strengthened, and by perspiration the acrid humors are dissipated, which when retained in the blood, occasion obstructions and many other disorders.

There are no means by which health can be more effectually secured than by accustoming the body to be duly exercised, and the muscles properly and regularly exerted; indeed the advantages resulting from a continued course of gymnastics can not be too highly appreciated. The indolent may be compared to rusty machines, which are soon corroded and destroyed: whereas, the active (though they also must ultimately perish), may be said to be always bright and polished, and constantly ready to fulfill any purpose for which they were destined.

It has been observed that what are called "liver complaints," and other glandular obstructions, are much more frequent now than formerly. This is chiefly owing to inactivity, and nothing but exercise can prevent them. So long as the liver, the kidneys, and other glands of the body duly perform their respective functions, health is seldom impaired, but when they fail it is very difficult to restore it.

Not only is the necessity of exercise in general to be enforced, but certain and particular exercises are herein laid down, well calculated to prevent diseases that are at present

most prevalent. And first, I would mention nervous complaints in particular. Nothing but exercise can brace and strengthen the nerves, or prevent the endless train of diseases which proceed from a relaxed state of the organs. Persons with feeble arms, weak hips, and weak backs are earnestly recommended to take first, calisthenic exercises, by which means all parts will be improved and strengthened by degrees. This is certainly the surest means of imparting to them the proper degree of strength necessary to perform with ease and facility the various functions allotted to them. How seldom it is we hear the active or laborious complain of nervous diseases; these are reserved for the sons of ease and affluence.

It is farther to be observed that the more luxuriously any individual lives, the more he requires exercise; and that not only of the passive or even of the active, but also of the violent kind. It is impossible for him otherwise to preserve his health, and at the same time indulge in luxurious gratifications. To persons in such a sphere of life, the subject of exercise is of peculiar importance, and requires the most exact attention which they can give it if they are so inclined. Indeed I sometimes think the farmer or mechanic has no just ground to complain of the extent of his labor, or the hardness of his fate; for he enjoys a thousand times more real happiness than the inhabitant of the gilded palace who rolls in luxury, and who, for want of labor or exercise, is courted in vain by every enticement to repose.

The effect of the want of bodily exercise upon the mind is a circumstance well entitled to peculiar attention, bad health so often resulting therefrom. Many, as Plato observes, extinguish the divine flame of genius. And it can hardly be doubted that if the body labors under disorders,

the mind will be unable to achieve any thing that is great and noble.

If any thing can at the present day rouse an anxiety in favor of regular exercise and its due application, it must be the effect it had on two of the most celebrated characters of ancient times—Cicero and Cæsar, who, without the advantage of a close attention to exercise, might have perished—unknown and unregarded.

Cicero is described by Plutarch as being, at one period of his life, extremely thin and slender, and having such a weakness that he could eat but little—in fact he could retain scarcely any thing on his stomach: his whole frame being so extremely weak. He traveled to Athens, however, for the recovery of his health, where his body was so strengthened by gymnastic exercises as to become firm and robust; and his voice, which had been harsh, was thoroughly formed, and rendered sweet, full, and sonorous.

And of Julius Cæsar, the same author informs us that he was originally of a slender habit of body; his flesh being extremely soft and of a sickly hue; he was troubled with violent pains in his head, and was subject to epilepsy; but influenced by the example of Cicero, and a great many others of his contemporaries, he found in exercise the best medicine for his indisposition, as after them he went through long marches, bore coarse diet, frequent sleeping in the fields, and continued for many years exposed to the hardships of war.

With such examples before us, who would not be animated to take exercise, particularly that communicated to the body by means of gymnastics, without which Cicero might never have triumphed at the bar, nor Cæsar in the field. It is absurd to imagine that a due attention to exercise requires too much time, and is inconsistent with elevated

situations or literary fame. By whom were greater actions performed and works more conspicuous for mental ability written than by the two distinguished characters above alluded to?

There can be no doubt that exercise, communicated to the whole frame by means of gymnastics and calisthenics, is highly efficacious in many disorders, and the great physician, Hoffmann, in a special treatise on that subject, justly celebrates it as the best of medicine; and the celebrated poet Dryden asserts that

“The wise for cure on exercise depend:
God never made his work for man to mend.”

There are many instances recorded by ancient authors of the great efficacy of gymnastic exercises in the cure of diseases. *Plato* tells us that Herodicius was cured of hypochondriacal disease by that means. *Pausanias* relates that Hysmoneus was relieved from great weakness of nerves by addicting himself to similar exercise, and thereby acquired such a degree of vigor as to obtain many prizes at the Olympic Games: and *Plutarch* says that Laomedon was so perfectly cured of an obstinate disease by the practice of gymnastics, as to excel in running.

As females are no less subject to hypochondriacal affections than men, and still more to weakness of the nervous system owing to the difference in the habits in which they are educated from their childhood, and to a train of disorders incident to the sex, it becomes necessary, in order to counteract the effects of these maladies, and to lay the foundation of sound health, that they should at an early period supply the want of that exercise which the male part of the community is accustomed to take, by those exercises which we call “Calisthenics,” as they are better adapted

to their natural delicacy of the frame and constitution. It is not absolutely necessary that all should attend a gymnasium; those who prefer it can take the exercise at home: the apparatus is very simple and occupies but little space. My book of instructions will explain to you in the briefest possible form precisely the thing to be done and how to do it; each and every exercise will be illustrated. By this simple means ladies may thus avoid those evils which, in mature age, so often prove fatal to themselves, and frequently to their progeny, it being impossible for the offspring of an unhealthy mother to enjoy strength and vigor of constitution.

Females of the higher classes of society being subject to a variety of complaints from which the lower classes are (owing to the exercise their situation compels them to take) generally free, it is to them in particular we recommend those exercises as the most effectual means of preventing or removing whatever debilitating tendency there may be in their constitutions.

In many branches of medicine the ancients were certainly inferior to the moderns; but they treated diseases with great success, for they applied themselves with extraordinary diligence to acquire a thorough knowledge of the symptoms of every disorder, and called in the aid of corporal exercises, by which means they supplied what was wanting in other remedies.

The particular diseases in the cure of which gymnastic exercises have been found the most effectual are, 1st, *Gout*; 2d, *Rheumatism*; 3d, *Consumption*; 4th, *Nervous Disorders*; 5th, *Bilious Colic*; 6th, *Dropsy*; 7th, *Palsy*; 8th, *Diseases of the Mind*; besides many others.

Gout.—Sydenham affirms that nothing so effectually prevents that disorder of the humors which he considers to be the principal cause of the gout, and consequently strength-

ens so much the fluids and solids, as exercise. The exercise, however, should be moderate, because those who are chiefly subject to the gout have their spirits too much wasted and their digestive powers are injured, which regular and gentle exercise would strengthen.

Rheumatism.—The beneficial effects of gymnastic exercises upon this disease, more particularly in its chronic form, have frequently been shown by me in a most satisfactory manner after every other remedy had been tried in vain. Several ladies, who had for a long time been afflicted with that disorder, resolved to try the effects of calisthenic exercise, and after having persevered in them for a short time they were effectually cured; their appetite increased, their general health improved, and they became less sensible to cold or of variation of temperature.

Consumption.—In most chronic diseases, but especially in consumption, exercise has given relief in a manner almost incredible. Not long since a gentleman whose son was troubled with pains in his left side, and seemed to be threatened with consumption, if it had not actually begun, thought that it might be owing to want of exercise. He was sent to my gymnasium, and I carried him through a complete course, which continued about twelve months, when it became no longer necessary, as his health was perfectly restored, and all tendency to consumption removed. It is almost unnecessary for me here to observe that the chest became much broader than probably it otherwise would have been, in consequence of these exercises.

Nervous Disorders.—Nothing can surpass the efficacy of exercise in nervous diseases. As the laboring classes of the community are seldom afflicted with these, it is natural to suppose that a resolute course of exercise would be an effectual remedy; many have been cured by persevering in

it; indeed, before they had practiced it many days, the complaints of several have been removed.

Bilious Colic.—There is no remedy so effectual in this disorder as exercise. By it the morbid matter is brought to the surface of the body, and the blood broken and divided by continual motion, undergoes, as it were, a new depuration. The bowels also are greatly strengthened and refreshed by this mode of rousing the natural heat.

Dropsy.—There is a species of the dropsy of the anasarca kind, for which exercise is an effectual remedy. The ancients, it would appear, relied much on exercise for the cure of this complaint; and it is a system which ought more to be attended to now in our day. This subject is very fully treated of in Fuller's *Medicina Gymnastica*.

Palsy.—A person threatened with the palsy was ordered to take a journey to a watering-place for cure. In going down, he thought he would try the effect of walking, having it always in his power to get into his carriage when he was fatigued; but he derived so much benefit from the exercise he thus took, that he was greatly relieved of the disorder before he reached the place of destination. The reader may consult Fuller's *Medicina Gymnastica*, where he will find that immense numbers with this disease have been cured by vigorous exercise.

Diseases of the Mind.—The celebrated Hoffmann cured idiotism by exercise; and according to Descartes the mind depends so much on the constitution and state of the bodily organs, that if any means of increasing sagacity were to be found, they must necessarily be sought for in the art of Medicine, accompanied by a due proportion of exercise. A well-framed and well-exercised body is precisely what facilitates and secures the proper performance of the mental functions; and a healthy organization of the bodily powers

is the best foundation for that noble endowment known under the name of common-sense (however uncommon in fact it is), or a sound understanding.

A number of cures in various other disorders have been performed by exercise. An eminent physician of this city—a friend of the writer's—has collected several cases in which it has been of the highest service, not only in the complaints already mentioned, but also in nervous pains of the stomach, in languor, fever, and the like.

With regard to the choice of exercise for curing diseases, it has been justly remarked that there are many points to be attended to. Every kind of exercise, and every degree of it, is not fit for every constitution; far less in every complaint, or at all times. Which is the proper sort of exercise to be recommended, must depend upon particular circumstances of habit, age, constitution, or disorder; and in cases where the whole frame is enfeebled, the advice of an intelligent teacher is not to be neglected.

Exercise is well entitled in various respects to be considered as a common aid to Physic,—to use a phrase which *Æsculapius* originally used; in fact, when the body is, by exercise, brought into a good state of health, and all the humors are wholesome, should it be attacked by disease it will be more easily restored; hence it is well observed that we ought undoubtedly to attribute the wonderful success of the ancient physicians in curing diseases with such indifferent materials as their pharmacy afforded, to the patient having his blood in general pure, and his body healthy by an attention to exercise.

CHAPTER III.

PREPARATORY EXERCISES IN GYMNASTICS.

ALL preparatory exercises have for their object to strengthen and to render pliable the lower extremities, and to accustom the body to a good carriage in general, as well as in single exercises. All instructions in gymnastic exercises should begin with them, and every individual have acquired some facility and persistence in performing them, before he passes to the more difficult ones. They are the more valuable because they can be practiced without any instruments, and by a large number at one time. I have given but very few of the motions, from the fact of there being two very excellent works devoted entirely to this system of exercise: that of Dio Lewis, and "Watson's Calisthenics."



Fig. 1.

Posture.—(Figure 1.) Feet and knees close as possible; body perfectly erect; breast outward. Particular care must be taken to maintain a correct posture of the upper part of the body; in this way alone the back can be drawn in, the shoulders recede, and a firm and noble posture of the whole body be effected; hands flat upon the hips, the thumbs backward, fingers forward. Keeping the hands so prevents an unsteady, varying motion of the body; lips closed.

1. *Standing* on the fore part of the foot, raise the heels from the floor, the joints of the toes strongly

bent, and the knees stretched. This is to be practiced a number of times.

2. *Walking* on tiptoe. The knees must not bend, and the joints of the feet are to be extended considerably; then move to the right, to the left, forward and backward to place.

3. *Hopping* with the knees stiff. The body is raised by the elastic motion of the joints of the toes—with the knees slightly bent, but are stretched as soon as the toes have left the floor; both kinds of hopping are to be practiced on the spot—forward, backward, to the right, to the left.

4. *Kicking*.—(Figure 2.) Striking the breech with the heels. This motion promotes the flexibility of the knees still more than hopping. First with the right, then with the left, then with both at the same time on the spot, moving from the place with short jumps and good carriage of the body, to right, to left, forward, backward, standing upon one foot, and striking the breech with it.

5. *The contracted posture* of the body, the knees approaching the breast; the upper part of the body is perpendicular, the thighs horizontal, and the heels close to the breech. Move from place to right, to left, forward, backward. This exercise is very fatiguing on account of the strong bend of the knees; but at the same time it very much increases their flexibility. The same exercises with one knee drawn up toward the breast. Endeavor, if possible, to preserve the balance of the body.

6. *Hopping on one foot*, with the right foot, the left carried; the left, right carried behind the left. The movements are made forward, backward, to the right, and to the left. This exercise can be practiced (1st) over a certain width; (2d) over a certain height; (3d) upon or from an elevation.



Fig. 2.



Fig. 4.



Fig. 3.

Exercises of the arms.—(Figure 3.) Raise the arms sidewise to a perpendicular position, back to place—directly in front the same. Each motion should be done a number of times with the hands close to the chest, elbows near the body; thrust both arms out in front; back to the chest; out sidewise; to the chest; straight up; to chest; down by the side. Close the right hand, and whirl it round a number of times; left the same; now both, first right, then left.

Raise (Figure 4) the arms, as in Figure 4; now bend to the right, then to the left, forward, backward. Be sure and keep the knees straight, bending only the hips—this is a splendid exercise for the liver.

Bring the hands up over the head, elbows

straight; now bend forward and touch the floor with the hands. Do it a number of times; the arms in front, elbows straight, hands closed; swing them first to the right, then to the left, twisting the body in the hips at the same time. Hands upon the chest; raise on the toes, then lower the body; at the same moment extend the arms over the head; now raise the body, and bring the arms down to the chest. Repeat a number of times.



Fig. 5.

Next (Figure 5) place the hands upon the hips; lower the body until the heels touch the breech, and hop. This is an excellent exercise for the ankles and knees.

The Cane or Wand Exercise.

The plain or ordinary motions of the wand are so well known that I will content myself with giving a few of the more complicated or difficult ones. To do those motions well, you ought to have acquired sufficient strength to preserve the balance on one leg without changing the position of the body, for they require peculiar flexibility and ease in the motions of the muscles. Holding the wand in the hands (as in Figure 6), take one step forward with the right foot, throwing the weight of the body on it; raise the left leg from the floor. Raise the wand to the height of the breast; pass the left leg in front, without touching the floor; raise the wand at the same time above the

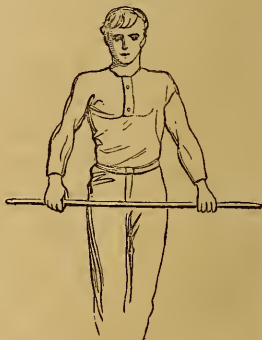


Fig. 6.

head, and lower it on the shoulders ; raise it again and pass the leg behind to place. Repeat the same with right leg. It should be performed at first very slowly.

The same movement should now be performed with the arms ; but in place of the foot going in front, it goes side-wise, with knee straight ; first right, then left.

Right foot in front ; raise the left leg ; pass the wand over the head behind, and touch the small of the back ; bring the hands in front again. Do the same with the left foot.

Right foot in front ; raise the left leg behind ; stretch the arms over the head ; now bring the right hand down to the right side, the left straight up. The wand must be perpendicular. The same with the other foot, changing the wand to the other side.

Raise the wand over the head, the arms stretched ; lower behind on a line with the shoulders ; turn to the left, bringing the left leg forward with the left shoulder ; continue without bending the arms ; same with the other leg, taking care to keep the arms straight, and not to touch the floor with the foot.

Right foot in front ; raise the left behind ; lower the left hand, and raise the right ; pass the wand over the head, and touch the small of the back. Then raise the left hand, and bring the wand to its place ; change the foot and perform the same movement. This makes a complete revolution of the body with the arms. Do this a number of times. It is excellent for the shoulder muscles.

Raise on the right foot, the left arm being bent, and the fore-arm in front, the right arm stretched at full length. Raise the left leg, knee bent ; now extend the left arm and left leg at the same instant. Do the same with the right arm and right leg.

Holding the wand as in Figure 6, the right foot in front, rise on it, at the same time bringing up the hand to a horizontal position in front; extend the left hand and arm at full length to the left side; bring the right hand against the breast; raise the left leg, the knee bent; lower the left arm, turning the body a little; lower the right arm, and bring the wand to place. Do the same with the other foot and arm.

The arms extended, right foot in front; raise the left leg, with the wand to the height of the eyes; then lower it to the right, bringing the right arm extended behind at full length, and the left hand opposite the right shoulder; lower it at full length in front; raise the right arm, passing it against the left shoulder and over the head. Repeat the same motion with the left leg, taking care to extend well the body every time the arms go behind.

These exercises can be performed in walking, as when the arms make the backward motions the feet make the forward, and the reverse. Also to the right and left; as the right foot goes to the right sidewise, the left arm will go to the left.

Exercises for the Upper Part of the Body and Spine.

First Position.—You lie on the back, keeping the body stiff, the arms extended and close to the sides, the legs and heels in the same line, without moving the latter. Then very slowly raise the upper part of the body in a perpendicular line, and remain seated; then resume the former position without moving the lower extremities. The same exercise may be performed crossing the arms on the breast, arms folded; also, with the arms extended above the head. The arms are brought forward at the same time, and in a line with the shoulders. Resume the first position.

Lower Extremities.—From the former position raise the right leg perpendicularly, without moving any other part of the body, and lower it again to first position. Now the left leg; both legs at the same time. Practice this a number of times, and when you have acquired sufficient strength in the dorsal region, you should endeavor to raise gently the lower extremities, and the back, and touch the floor behind the head with the toes, keeping both arms extended, and resting on the floor. Again return to first position; then by allowing the legs to descend gently, the knees continuing stretched, you remain seated on the floor.

After having thus exercised the muscles of the anterior part of the body, you will next exercise those of the posterior part by contrary efforts, which I will here describe.

Descending and resting, being placed with the face downward, extended and supported by the strength of the arms and toes (as in Figure 7), the hands turned inward must

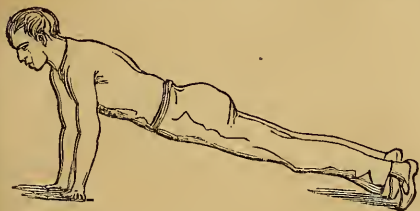


Fig. 7.

allow the body to sink slowly, bending the arms gently, and still keeping the body extended, without, however, permitting the stomach to touch the

floor. Now kiss the right hand, then the left, and return to the first position very slowly. This should be repeated several times, and quite gently.

Being in the same position as in the former exercise, place the right hand under the right hip, keeping the left in its place, the ends of the fingers inward. Now allow the body to sink toward the floor gently, bending the arms,

and keeping the body extended on the toes, and touch the left hand with the lips. Return to the first position, and perform the same with the other hand. This exercise calls into action many of the anterior and posterior muscles that upright exercises fail to touch.

From the first position draw up the knees, straighten the arms, and pass the legs between them; come to rest upon the heels; the hands must not move from the spot. Now back again on the toes and hands.

Dumb-Bell Exercises.

These exercises have many advantages. They occupy little space, and can be used at any time. For improving the biceps and shoulders, there is perhaps nothing better. The first motions should be with bells not exceeding five lbs. in weight.

Position.—Heels together, knees straight, shoulders square, head erect, arms hanging naturally by the sides; bell in each hand.

Motions.—(1.) Bring the arms up in front to a horizontal position; back to place. (2.) Sidewise to a horizontal. Place. (3.) Straight up in front to a perpendicular. Place. (4.) Sidewise to a perpendicular. Place. (5.) Both bells to the chest; strike out in front, right, left; then with both at same time. (6.) Strike out sideways. Place. (7.) Straight up over the head, first right, then left, then both. (8.) Bells to the side. Now bring them to the chest; thrust them out sideways; back to the chest; up over the head; to the chest; out in front; to the chest. Repeat a number of times. (9.) Bend the knees until the bells touch the floor; rise, bringing the bells to the chest, and from there straight up over the head. When the arms are up, the body should be on the ball of the foot. (10.) Bells by the side. Rise

on the toes and swing the bells up (as in Figure 8), bending well the back. This can also be done by bending forward,

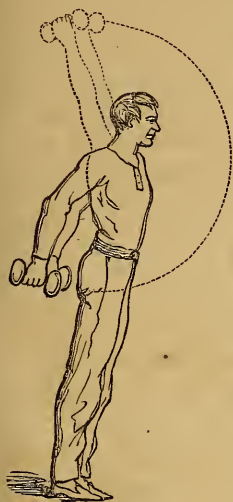


Fig. 8.

and permitting the bells in the lower swing to go well behind; also by passing the bells between the legs. (11.) Bells at the side. Swing them first to the right, then to the left, without moving the feet. The body should turn at the hips only. (12.) Place two ten or fifteen pound bells at the feet; face to the left, the feet at right angles; step back with the left foot from sixteen to eighteen inches, the left hand upon the hips. Remember the toe of the right foot must point toward the bell. Now stoop and grasp the bell with the right. Curl it and put it up over the head (Figure 9), down again and touch the floor.

In stooping forward, the left knee should be straight. Repeat five or ten times; then change the position by facing to the right, the left foot taking the place of the right, and the left hand performing the same movement the same number of times. Again change to the left, and grasp with each hand. Put up over the head; turn to the right, and do the same. These are the very best mo-



Fig. 9.

tions with the bells, as they exercise all the muscles of the arms, chest, and legs.

Exercise with One Bell.

(13.) Bell from five to twenty pounds in weight, according to natural strength. Bell in right hand; back of hand touching the thigh, right foot advanced slightly in front. Bring the bell to the shoulder by the strength of the arm, without swinging the arm or body. Repeat from five to fifty times; then change, and perform the same with the left, the left foot advanced. (14.) Bell in right hand, the hand touching the shoulder; thrust it straight up five or fifty times; the same with the left. Remember the hand

that is not exercising remains fixed upon the hip. (15.) Bell in right hand, arm extended; bring it to the shoulder, then straight up, down to the shoulder and thigh; the same motion with the left hand. There must be no swinging of the body.



Fig. 10.

Suspended Rings.

(1.) Rings as high as you can reach. Swing with the arms extended, as in Figure 10. (2.) Place the arms in the rings as far as the elbow, clasping the hands in front, and swing. (3.) At the shoulder or armpits, with arms bent or extended; swing. (4.) Body hanging straight, bring the legs up until the body forms a letter L. (5.) Rings as high as the shoulder, toes

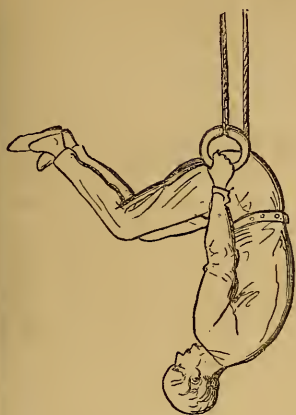


Fig. 11.

touching the floor. Swing to the front, to the rear, to the right, to the left. The toes must not be moved from the spot; now revolve to the right, to the left. (6.) Rings as high as you can reach. Keep the body straight, and draw up as high as possible five times, letting down very slowly. (7.) Rings the same as in Figure 10; turn completely over and back, as in Figure 11. (8.) From position of Figure 11 extend

the legs so that the body will be straight, the head down; now shorten the arms, and lower the body by straightening them again. (9.) Grasp the rings. Swing the feet up, and as they reach the rings put the toes into them, bend the knees, extend the arms, and curve the back.

(10.) *Drawing up.*—This requires strength and some little degree of skill. The rings should be as high as one can reach; draw up from the hang-grasp below the rings to the support-grasp above, as in Figure 12.

(11.) *Forward and back horizontal.*—Grasp the rings from the outside; swing the body up;



Fig. 12.

now set every muscle in the arms and body. Keep the whole body perfectly straight, and come down to the position seen in Figure 13. This is the forward. Next swing up and hold the same with the face down. This is sometimes done without any swing, but the effort is much greater and requires a greater degree of strength.

(12.) From the support, as in Figure 12, push one of the rings from the body sidewise; the ring close to the body sustains three-fourths of the weight of the body. First the right hand, then the left. (13.)

From the support, as in Figure 12, bring the legs up, without bending the knees, until they form a right angle with the body; now let them

down slowly. Repeat. This same movement should be



Fig. 14.

Fig. 13.

made with the rings at the elbow, keeping the ropes close in to the shoulder; also with head below, the rings being supported by the elbows, and again from the shoulder. Position.

(14.) Rings as high as the reach. Swing strong, and change from the hang-grasp below the rings to

the support above, as in Figure 14. (15.) Rings as high as the reach. Take the high swing by throwing the legs up as in Figure 11, when the swing is backward; and out, with full force, when forward. If this is done right you may touch a twenty feet ceiling in three springs.

Leaping or Jumping.

The jump is to be taken from the ball of the foot, never by the whole foot. In starting the feet should be closed, and in coming down the shock is to be broken by bending the joints of the knees, hips, and feet, and by a slight inclination forward.

The Leap from the spot, or Standing Jump with Running.—In performing this, you bend the knees quickly; then rise, drawing the knees toward the breast.

The Leap with a Preparatory Spring.—You stand two paces from the place of leaping; leap first with feet closed upon that place, and then spring in the manner described in the preceding exercise.

The Leap with Running.—You take a run of ten or fifteen paces. The run can be taken swiftly or slowly. At the moment of reaching the place of leaping, one foot is placed upon it, the other thrown forward. The first gives the start from the ground, and joins the other as quickly as possible, so that both feet are joined before one-half of the leap is accomplished. The body should rise after each step like a spring. No exercise increases the elasticity of the



Fig. 15.

lower limbs more than this. Good level ground is required. Dexterity, swiftness, duration, and good appearance, are the principal objects.

The High Leap.—Two leaping stands are required, six feet high, and about the same distance apart. The stands have holes with iron pegs, over which a cord is placed. The different degrees of height may be arranged by the following scale :

The height of the				knees.
"	"	"	"	thighs.
"	"	"	"	hips.
"	"	"	"	pit of stomach.
"	"	"	"	shoulders.
"	"	"	"	chin.
"	"	"	"	mouth.
"	"	"	"	eyes.
"	"	"	"	crown of head.

Most persons learn by little practice to jump as high as the pit of the stomach; but very few as high as the crown of the head.

Long and High Jumping.—This is composed of the two preceding kinds—only increase the distance of the place of springing. Lower or raise the cord accordingly, but it must be practiced with great care, with slow increase of height and length.

Breast Bars.

These are excellent for expanding the chest. Place the hands upon the bars (as in Figure 16), the feet close together, and from twelve to fifteen inches to the rear. Throw the body forward upon the arms, rising on the toes at the same time; the knees being kept straight, the stomach drawn in, the breast out. Repeat this movement from fifty to

five hundred times.

Climbing movements can also be practiced on these bars, going up hand over hand—with both hands at a time with the knees bent—with the body bent at the hips, knees straight, etc., etc.

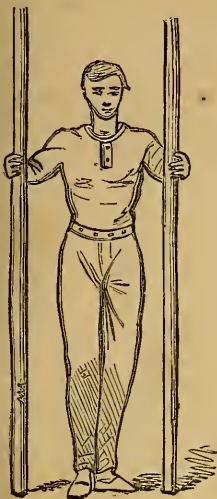


Fig. 16.

Inclined Poles.

Grasp each pole as high as the reach, throw the right leg over the right pole, the left over the left, and raise the body by moving first the right hand, then the left. Climb with the hands alone, the body kept straight; with both hands at the same time; upon one pole, hand over hand; right hand and left leg; left hand and right leg; both hands moving up at the same instant; upon both bars, body bent at the knees, hand over hand; bent at the

hips, hand over hand. Raise the body until the arms are bent; then swing through and come to stand on the outside of the bars; to the right; to the left. The same motion except when the swing is over the right bar. Hold on with the right hand and revolve around without touching the feet to the floor; the same with the left.

Exercises on the Single Bar.

(1.) *Hanging* on hands or arms before the body (Figure 19). The arms being extended or bent on the lower part of the arms at the same time; first the right, then the left—upper part of the arms (Figure 20) as in the figure or straight out in front; grasping from either side, the arms being either stretched or bent. It is well to practice these

different kinds of hanging in order to ascertain your com-



Fig. 17.



Fig. 18.

parative strength. By this means the upper or more difficult motions will come much easier.

From the position of cross-hanging, touch the feet to the bar, hanging close to the bar as in Figure 19, throw the legs up and touch the bar with the toes. From the same position touch the knees. From the same throw the legs over the bar. As the legs go up, shorten the arms, as in Figure 21.

I think it quite unnecessary to enumerate all the exercises of hanging close to the bar, because they are so easily taken from former motions.

I may however mention the hanging with one arm, with one hand, and one leg, as in Figure 22; hanging with arms

extended (Figure 19). The body is entirely turned, so that the stomach is toward the floor or ground. Change the hands on the bar, keep the knees straight, and return to the first position. This motion of hanging on should be practiced a number of times, in order to obtain confidence.



Fig. 19.

Position of Figure 19. Swing on the bar; change the hands; straighten the arms; place the right knee upon the bar and swing back to place. The same motion with left knee; with both knees at same time; the same motion in swinging up, but instead

of the knee, place the right ankle upon the bar; back to place. Then the left, then both. The first motion again; swing up; straighten well the arms, the hands well enough only to admit the body to pass through; place the ball of the right foot upon the bar, and return to place. The same with the left; then with both. The feet in the last motion are on the outside of the hands, hanging with arms bent and moving to the right, to the left.

Similar to these are hanging by the knees and moving to the right, to the left; swinging from position in Figure 19, and changing the grasp. You swing on one side of the bar, and make a half revolution around its axis by the revolution of the body and changing of the hands.

In all kinds of exercise on the bar in the hanging position, great care should be taken by the beginner to keep the legs stretched and closed, and the toes pointed.

The practice of raising the body as high as possible by



Fig. 20.

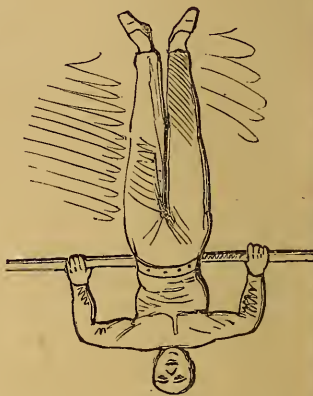


Fig. 21.

drawing up must not be forgotten; for herein, without some dexterity, no exercise, without first starting from a spring, can be well performed.

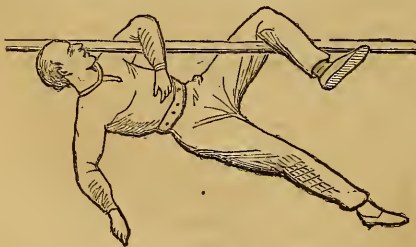


Fig. 22.

In grasping, as in Figure 19, by the strength of the arms alone, one must raise the body to the eyes, to the mouth, to the chin, to the breast. The

body, during this exercise, can be bent in one knee, bent in both knees, and

hips, or bent in the hips alone, which is by far the most difficult.

Those who wish to learn the difficult feat of raising the body by one arm, will first practice the hanging with one hand, the arm being bent, and letting down slowly. This is the correct exercise preparatory for it. The feat consists in drawing the body up, which is one of the most difficult of exercises. The practice is to let the body down from that position.

In exercises with the upper part of the body above the bar, the arms are straight; lower the arms until the fore-arm touches the bar; then raise them or straighten them one after the other; next straighten both at the same instant; now move from the right to left, with arms straight.

The body being suspended, swing the right knee on the bar, the left leg being straight; take a strong swing, bringing the right thigh upon the bar. You are in a sitting position. Now change the hands; crook the knee; grasp the bar firm, and make a revolution around the bar. This may be done forward or backward, with right, left, and both knees hanging on the bar.

Lowering and Raising.—Resting on the arms before the body, bend gradually so low that the mouth touches the bar, as in Figure 23. Place. Arms behind the body; bend gradually so low that the lower part of the shoulders touches the bar, extending the right arm along the bar; then the left arm.

The swinging up on the bar can be varied so that the upper arms, lower arms, hands, one or both, rest upon the bar, on the right or left side, close together or separated by the hanging leg, with the grasp from above, beneath, or on either side. Thus over one hundred different kinds of exercises in this particular branch are possible.

Two more kinds of swinging up, not described above, should be mentioned. These are: with arms crossed; with taking hold of the knee beneath the bar, to the right, left,

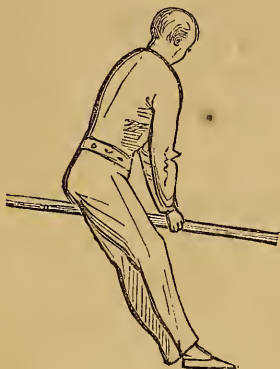


Fig. 23.



Fig. 24.

and both. The motion is performed forward and backward. Hanging close to the bar, arms behind the body, small of the back touching the bar, with a strong swing with the legs make a complete revolution around the bar, once or several times forward, or backward, which is much more difficult.

Swinging round.—The arms being before the body as in Figure 24, the stomach must be as close to the bar as possible. In swinging round by taking hold of the thighs, lean on the stomach, the hands take hold of the thighs, the bar between the arms and body. Another kind of swinging round is by the arms being behind the body, the lower part of the arms on the bar, as in Figure 25. Swing one or several times around the bar, forward and backward.

In swinging round from the position of Figure 20, forward or backward, bend the arms at the elbows—right

fore-arm over left, and grasp firmly the bar ; swing the legs and revolve around. Hanging down from the knees (Figure 26), move the body by means of a swing ; loose hold of

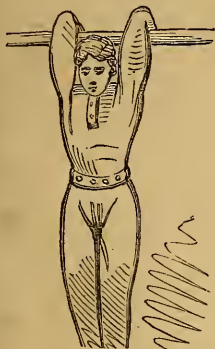


Fig. 25.



Fig. 26.

the knees, and drop on the feet. This can also be done from the seat on the bar ; also from the seat the “knee-will” is performed, revolving around the bar by catching the knees and swinging.

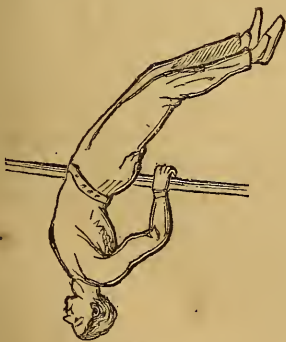


Fig. 27.

Swinging through. — Take hold of the bar, as in Figure 19 ; carry the legs up under the bar between the hands or arms ; shorten the arms, stretch the body as in Figure 27, and the small of the back will be upon the bar. Now straighten the arms, and you will be seat-

ed upon the bar. Change the hands upon the bar, and let

the body glide from the bar, bending the arms as much as possible. Now straighten them again and regain your seat upon the bar. Being seated upon the bar, hands in front, throw back strongly, catching the knees on the bar, and revolve. Change the hands, the knees the same; swing to the front, and revolve.

In swinging by the knees, as in Figure 26, and when the position is reversed, the head above the bar, let go the knees and catch with the arms, as in Figure 25. In the same exercise with the knees, swing strongly, and when the shoulders are above the bar, let go the knees; make a half turn quickly, and catch the bar with the hands.

From the position in Figure 19, work the hands well over the bar, and draw up until you come to rest upon the hands above. The body must be kept close to the bar, the elbows on a line with the shoulder. Now bring the hands close together, the elbows touching the body, and force the legs up. This is the start for the Giant Swing, and with some practice you will also be enabled to balance yourself there.

From first position swing up on the bar; change the hands, placing them between the legs; elbows near the body. Straighten the arms, and spread the legs as wide as possible. Swing forward, catching the ankle on the bar, and revolve around. The arms should be kept straight.

Swinging backward, grasp the bar, as in Figure 19, and swing strongly the legs and body. As the body is level with the bar on the backward swing, let go the hands, and grasp again. Then strike the leg with right hand; grasp again; left hand the same; then both. This is a very quick motion, and requires much practice in order to do it well. Another motion is by changing from forward to backward. To do this well the back must be drawn in, and the grip made quick and sure.

I have enumerated and described some of the more simple and easy exercises on the single bar, but those who are able to do them well will find no difficulty in performing others that are perhaps more complicated. The Giant Swing is perhaps the most difficult motion that is performed on the single bar. It is to make the revolution with arms and body perfectly straight, forward and backward.

Exercises on the Parallel Bars.

1st Motion.—Standing at the end of the bars, each hand taking hold of one bar, as in Figure 28, the performer

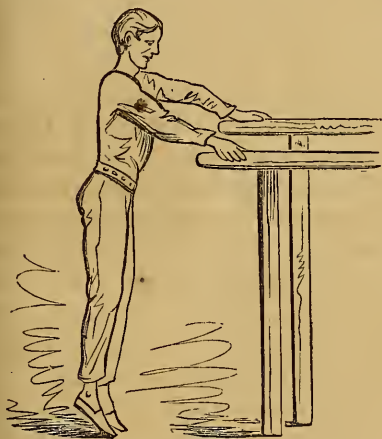


Fig. 28.



Fig. 29.

springs up so that the arms are stretched as in Figure 29; descends as soon as he has reached that height; starts again, and so on a number of times.

2d Motion.—Rest on the arms as in Figure 29. Falling forward of the upper part of the body is to be avoided. The whole body should form a perpendicular line.

3d Motion.—Lowering and raising the body slowly, bend the arms at first a very little; by degrees so low that the arm-pits approach the hands; then rise again. Practice this a number of times.

4th Motion.—Lowering and touching the mouth to the bar, to the right, to the left; behind the right arm, behind the left.

5th Motion.—Position as in Figure 29. Draw up the right leg horizontal with the bar, the knee straight; then (6) the left; then both at the same time. From same position pass (7) the right leg, keeping it straight, over left bar; left leg over right bar; now (8) both over each bar. This is a very difficult exercise, but excellent for the spine. (9.) The lowering and rising motions can also be done with the thumbs on the outside, and fingers on the inside.

10th Motion.—Lowering upon the elbows from position of Figure 29, bend one arm after the other so as to rest with the whole lower part of the arms on the bars. Now rise again, one arm after the other. Sink first with right, then left. (11.) Now bend both arms at the same time. Rise again to the starting position.

12th Motion.—Take position as in Figure 29, in the mid-

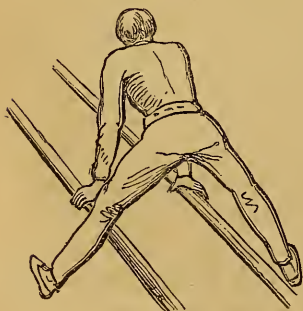


Fig. 30.

dle of the bars; raise both legs forward; draw the stomach in, and rest them on the bars in a straddling position, as in figure (13). Now move through the bars with the forward swing, then the backward (14). In the latter the legs come behind the arms. Next (15) swing with the legs closed, over the right bar, over left—forward—backward. (16.) In

swinging from the bars, (17) when the legs are raised above the bar, they pass over it and you alight on the outside of the bars. It is to be practiced over the right bar, over the left bar. (18.) When the legs are raised backward they pass over the bar, and you alight on the outside, the same as the forward motion.

19th Motion.—This consists in moving along upon the hands. This motion should be performed without bending or shaking the legs, or drawing up the back, but only by the elastic movement or spring of the joints of the hands. The body should be kept perfectly straight and steady during the whole movement.

20th Motion.—Take position of Figure 29. Keep the elbows stiff. Now move the right hand, then the left, then both at the same time. This can be done with arms bent, but is more difficult; also (21) with the legs bent at the hips. This exercise is sometimes performed, the legs (22) being raised above the bar. But before this can be done, much practice must be taken in the previous motions.

23d Motion.—This consists in changing the seat. From position of Figure 29, the legs, closed and stretched, are thrown from one bar upon the other, or on the same bar from before the hands to behind them. Now (24), bend the arms and perform the same motions; again bend them still more, (25) the elbows reaching over the shoulders.

The arms bent (26), the lower part of them resting on the bars, from the right bar before the hands to the left behind the hands. The arms bent (27), the legs closed, swing over the bar before the arms; the hand opposite to the side where the descent is made pushing strongly off, so that you come to stand on the outside of the bars. This is done also (28) with the fore-arm resting upon the bars. In swinging off make the arch as high and as far from the bars as possible.

29th Motion.—Position as in Figure 29. Put the lower limbs in a vibrating motion. In swinging forward the stomach is drawn in and the hips bent. In swinging back-

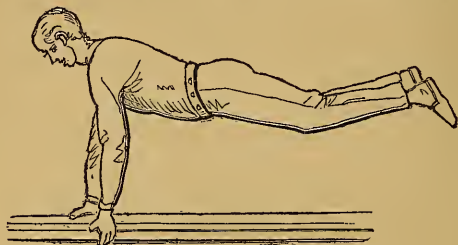


Fig. 31.

ward the back is drawn in; an upright and unaffected carriage of the head, pressing down, and keeping back the shoulders, are the principal points to be attended to.

There are very many kinds of swinging, but I shall mention only those that give the most exercise, and at the same time bring the greatest number of muscles into action.

Swinging forward and back with arms stretched; with bending the arms. The moment when the body, swinging backward, has passed between the arms, they begin to bend as soon as can possibly be done without turning over, and stretch again as soon as the legs begin to swing forward, so that the arms are stretched just when the body passes between them. With bending the arms forward and backward (30) a combination of the preceding. In order to perform this exercise, it is necessary to have the arms stretched each time when the body is passing between them. With bending the arms (31) in the middle of the swing backward and forward; particular attention must be paid to having the arms stretched at the beginning and end of each swing. With straddling (32) at the end of each swing, forward and backward, touching the feet each time.

With kicking (33) at the end of each swing. The legs are bent at the knees and hips, and thrown out when the swing has reached the highest point. It must be practiced at first with caution, because the kicking gives a violent shake to the whole body, especially the arms.

It is well to practice the difficult kinds of swinging at first at the end of the bars.

34th Motion.—Consists in moving along upon the hands with swinging from position of Figure 29. Swing forward, and at the same time move the hands along the bars; continue this movement till you reach the end. The fewer strides the better. The same (35) backward with arms

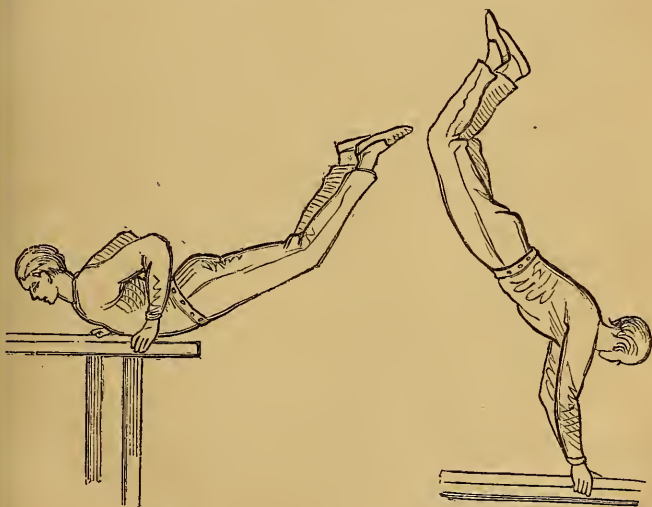


Fig. 32.

Fig. 33.

straight. The same (36) forward with arms bent, backward with arms bent, as in figure 32.

The position (37), Figure 29, at the end of the bars, the face

outward; take a strong swing backward, so high as to turn over, and to come to stand before the bars. This exercise should at first be performed with the assistance of some person to take hold of the arm.

(38.) From position of Figure 29 lower the body, both fore-arms coming on the bars. Now reverse the body, swinging the feet up, the head down, the arms remaining the same with firm grip of the hands.

(39.) Standing between the bars, extend both arms over each bar at the armpits; swing the legs, and so move along.

(40.) From position of figure 29 swing backward, toes turned out, catching the bars on the inside of both feet, keeping the knees and arms stiff. Now bend the arms, straighten them again a number of times; also by kissing the right and left bar.

(41.) From the same position swing backward, bringing the right leg around the right arm, and on the inside of the bar, the arms remaining in the position, and the body parallel with the bars.

(42.) Grasping the bars from beneath, hands on outside, draw the body up until it forms a letter L.

(43.) From the same grasp, draw the legs up; turn the toes out, and catch them on each bar, the stomach being toward the floor.

(44.) The same grasp. Draw the legs up, and turn completely over, touching the feet to the floor, and return to place.

(45.) Perform the same motion with knees straight, feet in front, arms extended, over and back.

(46.) Stand upon the outside of the bars; shorten the arms; swing the legs up through and over the opposite bar, coming to a stand with the back to the bar; or by catching the arms on the bar, before the feet touch the floor.

(47.) From the seat on the bar, the body being parallel, put the toes under the opposite bar and bend backward. The back can be so strengthened by this motion, that in a short time a heavy weight can be raised by the hands from the floor to the sitting position, and back, a number of times.

(48.) Standing at the bars as in Figure 28, lower the body until the hands receive all the weight, then raise up slowly until you come to rest above the bars, upon the hands, with arms straight, as in Figure 29.

(49.) Being seated on the bar, the body parallel, place the hands upon the opposite bar; set the muscles of the arms and shoulders; draw up the knees; slide down until the shoulders take the bar, and throw the feet straight up, the head being upon the outside of the bar. From this position, bend the legs until the feet are on a line with the head. Back to place.

(50.) Legs upon the outside of the bars; bend forward, doubling up well; place the arms upon the bars, between the shoulder and elbow; throw the head down, and revolve along the bars a number of times.

(51.) From position of Figure 29 swing over the right bar, keeping the hands fixed in their place; bend slightly the arms, the elbow of the right coming under the body; the knees straight, toes pointed; hold there, first to the right, then to the left.

(52.) The most difficult horizontals to hold are as follows: Those *above the parallel bars*, with arms placed along the bars from the shoulder, forward and backward. The body should be on a line with the bar.

Walking through the bars upon the hands, feet up, head down; the knees and arms must be perfectly straight, the body perpendicular.

Climbing by means of the arms alone. The body is

raised by means of the hands alone; the legs and the rest of the body must be kept as quiet as possible. Climbing with a grasp, where the plane of the hand is perpendicular, is always done with one hand grasping after the other. The elbows must be as close to the body as possible. The body can be perfectly straight, bent in, the legs bent in the knees and hips, or bent in the hips alone, which is very difficult. A swinging pole is often used for climbing, and is very good.



Fig. 34.



Fig. 35.



Fig. 36.

Skipping with the Rope.

The rope should be from one-half to three-quarters of an inch thick, and long enough to reach the hips on both sides, as in Figure 37. When standing upon it for cross-skip-

ping, it must be a little longer. The arms, bent a little, are brought near the body, the hands near the hips. The swinging of the rope is performed merely by turning the wrist-joints. The arms should move either not at all, or but very little. There are many modes of this exercise, such as—

Simple Skipping, straight skipping; on the spot, from before, from behind; with running, galloping, trotting.

Crossed Skipping, when the lower arms are crossed. Go

through the same motions as before directed, with changed crossing; one time the right arm over the left, the next time the left over the right, and so on.

Double Skipping, when the rope at every spring passes twice under the feet, turning, in order to change the skipping from before into that from behind, you swing the rope, and at that moment pass it from before to behind under the feet, by the right side upward. Now turn quick to the right, and skip from behind to before. This should be practiced at first slowly, then as quick and as long as possible. In practicing the crossed and double skipping, it is well to render it easier by changing with the simple. It is a beautiful and invigorating exercise to change in order with different kinds of skipping. All these exercises may



Fig. 37.

be done with the knees being stretched or bent ; touching the breech with the heels ; hopping on one foot, or changing the foot at every spring.

Vaulting.

Vaulting on and over the bar or wooden horse. One of the most important exercises. It has a salutary effect upon almost all parts of the body, particularly the arms, legs, muscles of the stomach and back. It increases the agility and improves the carriage. It is to be practiced over a bar or vaulting-horse.

Take position, as in Figure 38. From this position the body is forced upward by means of a spring, and with the assistance of the hands, so high that the arms are stretched when the body has reached that height, as in Figure 38.



Fig. 38.

Sink again in a perpendicular line ; touch the floor for a moment, and then repeat the motion a number of times. Common faults in this exercise are : falling forward of the upper part of the body ; throwing back the legs ; not stretching the arms ; and a sinking of the elbows ; instead of merely pressing downward and keeping the body straight. Spring up, arms straight ; raise the right leg, sidewise, to the right. Back to place. Up again ; now

left leg the same, then both together.

Pushing off.—Spring up, legs against the bar ; as soon

as the arms are stretched the legs are pushed off, both at a time, merely by a sudden move, proceeding from the back. Be sure not to bend the knees. This motion should be several times repeated.

Spring up, throw one leg over so as to sit. Place both hands upon the first saddle-hold, the thumbs forward, the elbows as near to each other as possible without being bent. Now throw the weight of the body on the hands, raise the legs, separating them, and keeping them straight. You are now in a suspended position, from which you raise the body by drawing in the stomach as high as possible; then lower again by bending the elbows so much that you almost touch the saddle with your thighs. This movement should be repeated slowly, without any sudden start or spring.

Swinging. — From the suspended position described above, the hands placed so that they almost touch, bring

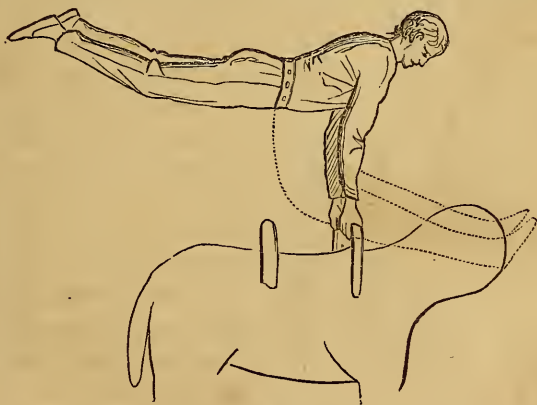


Fig. 39.

the legs into a swinging motion, drawing in the back, as in Figure 39, when swinging backward—the stomach when forward. The higher and more uniform the swinging,

the better it is. After some little practice, you will be able to strike your feet together behind and before. The legs must be constantly kept straight in vaulting. Every thing should be practiced right and left. A perpendicular position of the head and body should be maintained in all movements; likewise the stretching of the joints of the knees and feet, if their bending is not necessary for the spring. Now spring up, pass the legs through the hands, push off, and descend with your back to the horse. Perform this over the right side, over the left side, also with a run.

Vaults with one Hand. From behind. Take a short run, mounting with the left hand and right foot, with the right hand and left foot. From the side, the same; the foot that does not make the vault executes the spring. Many motions in vaulting can be practiced over the single bar: to the right, to the left; through the hands, by straightening the arms, and drawing the knees close to the chin. This vault can be increased by practice until the bar is as high as one can reach.

Continued Vaults consist in performing repeatedly the same vault, and require not only strength and agility, but also perseverance. If it should be difficult to start immediately after the descent, a double spring may be taken.

Spring to the position seen in Figure 39; draw the knees toward the breast so that the legs will pass through between the arms, and make the descent on the opposite side; then, without letting go, spring back again to the first position.

Next, spring up, and come to rest, with both knees upon the saddle; raise the hands above the head, and spring from the knees, alighting on the opposite side.

The hands being firmly placed upon both saddle-holds,

spring into first position, elbows close to the body ; draw the knees up in front, throw the head forward, the feet up backward, as in Figure 40, and turn over, alighting upon the feet with back to the horse. Just before the feet touch the floor, the hands must push off strongly. This exercise must not be attempted at first without the assistance of one or two persons.



Fig. 40.

Both hands upon the forward pommel, thumbs on the outside ; spring up, keeping the elbows close to the body ; the legs pass forward on each side of the horse, until the heels reach the horse's head, as in Figure 39 ; the hands all the while remaining firm. Now swing back, extending the arms until the body is nearly in a horizontal position. Again to the front, and so on several times.

Then both hands on the back pommel, fingers on the outside, hands and elbows close together, the latter touching the body—raise the legs, with knees straight, until the body forms a horizontal line. This can be done with one hand, the elbow being well under the body.

Running Vaults—Are made at a distance of from five to fifteen yards. Feet taking the place of the hands ; to the saddle ; to the neck ; to the right ; to the left ; to the knees ; to the feet on the horse, by turning of the body to the right, to the left. All those are simple and excellent motions for improving the wind and giving agility. They can not be too often practiced.

Inclined Ladders.

(1.) Face the ladder; grasp as high as the reach; place the right foot on the round, raise the right hand and left foot, and alternately ascend to the top.

(2.) The back to the ladder, the hands upon the sides, the feet on the first round; ascend to the top.

(3.) Keep the hands close to the outside of the ladder, and ascend with the feet alone, forward and backward.

(4.) Grasp the sides, legs upon the outside; draw the body up by the strength of the arms.

(5.) Hands upon the sides, body straight. Feet upon the outside; draw up.

(6.) Feet in the same position; hands on the rounds, on a line with the hips; push the body up. The knees must be kept perfectly straight, as in Figure 42.

(7.) From the inside of the ladder grasp the highest round; place the feet on the first, and ascend to the top. Movement, right hand, left foot, or left hand, right foot.

(8.) Grasp the round with left hand, high up; the right hand upon the outside as in Figure 41. Draw up, and move the left hand to the round above, the right hand gliding after. The body must be kept straight; feet closed, and toes pointing to the floor.

(9.) The same motion on the opposite side of the ladder, the right hand grasping the round.

(10.) Grasp high up, and ascend by placing one hand after the other. Many in this exercise twist and kick their feet; this is quite unnecessary, and makes the movement much more fatiguing.

(11.) The hands high up; ascend hand over hand, or by putting the hands on different rounds.

(12.) The hands high up, palms turned toward the body; ascend, one hand after the other, on same round.

(13.) Hands the same ; ascend hand over hand.

(14.) Place both hands high up, raise the body by the muscular spring of the arms, and grasp the round above. The arms should be kept close to the body, and the ascent



Fig. 41.



Fig. 42.

made by a jerk. The beginner should never ascend beyond three rounds.

(15.) Both hands on the outside ; ascend by moving first right, then left.

(16.) Hands on the outside ; ascend by jerks, or moving both hands at the same time.

(17.) The same movement, except that one hand is placed on the round, the other on the outside.

The Inclined Ladder is one of the most valuable implements in a gymnasium.

Horizontal Ladders.

- (1.) Hands upon the outside; move along, first with right hand, then left.
- (2.) Hands the same; move backward.
- (3.) Hands upon the first two rounds; draw the body up until the head touches the hand or round.
- (4.) Hands upon the first and third rounds; draw up as strongly as possible.
- (5.) Hands upon the first and fourth rounds, and so



Fig. 43.



Fig. 44.

on, extending as far as your strength will permit you to draw up.

- (6.) Hands upon the outside; swing the body forward, at the same time glide the hands along the sides.
- (7.) The same movement backward.

(8.) Hands upon the rounds; move along, by placing one hand after the other.

(9.) Hands the same; swing. Move first the right hand forward, then the left.

(10.) Hands the same; swing; but omit one round on each movement.

(11.) The same, only omit first two rounds, then three, or as many as the length of the arm or strength will permit.

Single Trapeze Exercise.

The exercises on this small single swinging bar develop the muscles of the arms, shoulders and chest in a remarkable degree. It is supported by two hooks firmly fixed in the ceiling or to a bar, from which two ropes are suspended, at the extremities of which a bar is fastened thirty inches in length, and one inch and a quarter in diameter. The bar should be made of hickory, and suspended six inches above the reach, so that you spring to catch it.

(1.) Raise the body by the strength of the arms until the head is above the bar. In the grasp the thumbs should be under, and the hands from sixteen to twenty inches apart; the legs straight, heels touching, and toes pointed toward the floor. Repeat this exercise a number of times.

(2.) The same movement, except that the palms of the hands are turned toward the body. The elbows should be kept close together.

(3.) Grasp the bar as in Figure 44; throw the legs forward and upward, and as you swing back, shorten or draw up the arms.

(4.) Raise the body until the head is on a line with the bar; then throw the legs up, forward, and pass over the

bar as in Figure 45. Be sure to maintain a firm hold, and keep the arms bent on making the descent.

(5.) Grasp as in Figure 44; throw the legs up; bend the knees, and pass them through between the arms, and descend slowly to the floor.

(6.) The same movement, except that the legs must be brought back again after hanging in the position seen in



Fig. 45.

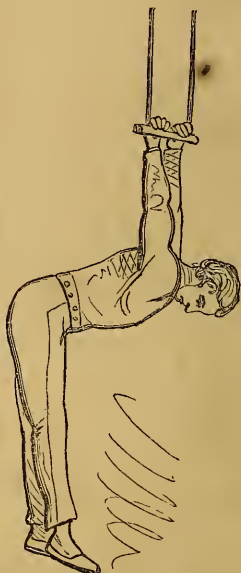


Fig. 46.

Figure 46. With some practice, the body may hang perfectly straight after passing through backward.

(7.) Grasp as in Figure 44; throw the legs up and over the bar, and come to rest on the stomach; place the right hand on the right hand rope as high as the reach; raise the body by drawing up with the right hand, and straightening

left arm; pass the legs through and over the bar, and come to sit on it, as in Figure 47. The descent is made by dropping the body backward, the hands gliding down the ropes, catching the bar at the knees, passing the legs under, and come to stand on the floor. Repeat the same exercise with the left hand.



Fig. 47.



Fig. 48.

(8.) From first position throw the legs up; pass them between the hands, and bring the thighs on the bar; grasp the ropes with both hands and come to sit on the bar. Now take hold of the right rope with the left hand, the right hand on the bar; raise the body by the strength of the arms, and turning the bar under with the right hand, return to the sitting position. Repeat the same exercise with the left hand. In

descending, employ the contrary movements.

(9.) Grasp the bar as in the first position; pass the legs through the hands; keep the legs straight; bend the back, keeping it close to the bar; draw up with the arms, and come to sit on the bar.

(10.) Slip the hands up the ropes; shorten the arms and stand upon the bar, the hands on a line with the hips with a firm hold. Bend the body forward and backward.

(11.) Glide the hands high up, and reverse the position of the body; the feet up, head down.

(12.) From the seat on the bar swing, but very slightly; then drop to the knees on the bar, and, as the swing is forward, unhook the knees, and come to stand on the floor.

(13.) The exercises of the swinging motions, suspended by the arms, are very good, but require great power of grip and strength of arm. *First*, Swing with body suspended, as high as possible. *Second*, Swing and revolve over the bar each time it goes forward. *Third*, Swing high, and pass the legs through the hands, and place the small of the back upon the bar, keeping the body perfectly straight. This requires some practice in order to balance the body. You may also turn a somersault from the forward swing.

(14.) Horizontal position. This can be done by placing

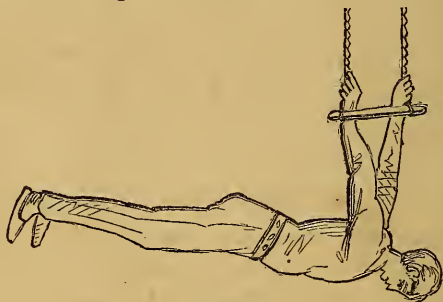


Fig. 49.

the hands on the ropes above the bar (Figure 49), or the hands on the bar, which is much easier.

Throwing the Hammer or Weight.

This kind of throwing, performed by swinging the arm stretched forward or backward, can be practiced at a mark as well as a distance. The foot, on the side of the arm throwing, should be back, and nearly at right angles with the other, and from 18 to 24 inches apart. The hand grasps the weight, and after swinging one or more times, leaves the

hand. Care must be taken that it has the proper angle at the moment of parting from the hand.

There is a modification of this exercise, which consists in throwing by stretching the arm which was before bent. Cannon-balls or round stones are the best implements for this kind of exercise, because they are easily held. The position is about the same as in the preceding exercise, but the arm throwing is bent in a sharp angle to the height or a little above the shoulder, as in Figure 50. The weight is placed in or on the open hand, and after one or more motions of the body, forward and backward, the arm is extended, and the weight thrown off.



Fig. 50.

Home Exercises.

There are many simple exercises which can be practiced at home as well as in the gymnasium. I shall indicate about a score, although the number might be increased almost indefinitely.

(1.) Jumping through or over a cane, handkerchief, or the hands, forward and backward.

(2.) Entire turning around one's own axis in a jump, on the spot, to the right and left.

(3.) Sitting down and rising without the use of the hands, the legs bent and crossed.

(4.) One leg stretched out in front, which must not touch the floor or ground. In sitting down or rising on one foot, it is to be practiced right and left.

(5.) Lying down, arms crossed over the chest ; rise without the assistance of the arms.

(6.) Taking hold with the left hand of the right ear, and passing the right arm through:

(7.) Drawing out a knife stuck in the ground or floor near or in advance of the little toe ; the hand of the opposite side passing around behind the feet, which must stand fast, to the right and left.

(8.) Touching the floor with the fingers or wrist, the knees being kept stiff.

(9.) Taking up with the mouth from the floor a cane or similar light thing at a distance less than one's own length, without touching the body to the floor.

(10.) Leaning against a wall in a straight position, the feet removing gradually from the wall, and pushing off the head from the wall. The elastic power here proceeds from the back and neck ; the arms to be kept straight and close to the body.

(11.) Two persons stand with their backs against each other, hook their arms, and lift each other in turns.

(12.) Bend the joints of the wrist, the fingers being interlaced, and the elbows pressed against one another ; the pressure should be continued only until the joints of the wrists bend. This may be performed left against left, right against right, or with both at a time.

(13.) There are many tests for the strength of the arms. Thus : one person stretches out his arm, keeping it as stiff as possible, the fist firmly clenched ; the other takes hold of the arm above the wrist from without. He who endeavors to bend stands on the outside of the stretched arm ; if the pressure is strong enough to bend the wrist, the elbow yields.

(14.) Two persons sit at a narrow table, both resting

the same elbow on it so that the lower arm and hand incline forward ; both join their hands, and each endeavors, by a uniform pressure, to press down the other's arm. The other hand should remain under the table, resting on the thigh. This is to be practiced left against left, right against right.

(15.) The wrists are placed on the sides, so that the elbows form sharp angles ; the elbows are moved forward until they touch ; then backward.

(16.) Moving along on the hands, when sitting on the floor, the arms are stretched so that they raise the body to a suspended position, and then move along, the legs being kept straight, forward and backward.

(17.) Sitting sideways on a chair, place one hand on the back, the other on the front of the same in the centre, and pass the legs through.

(18.) The body extended upon the hands and toes, face down, feet near the wall, carry the hands slowly backward, one after the other, raising at the same time the legs up the wall with the whole part of the body, until you reach a perpendicular position, the weight of the body being supported on the arms. Then bring the head so that the lips or chin will touch the wall ; descend slowly, keeping the knees straight. This exercise should be performed with much care, and at first with some assistance.

CHAPTER IV.

INDIAN CLUB EXERCISE.

IN this exercise, although but little more than two-thirds of the body, that is, from the hips upward, are called into operation, its importance should be estimated by the fact that they are precisely those requiring constant artificial practice, being naturally most exempted from exertion on the part of those who lead a sedentary life. There is nothing in the whole round of gymnastic performances that will be found of more essential service than this exercise with the clubs. It demands but little muscular exertion, and such as it does require calls chiefly upon that portion of the system which it finds in a state of comparative repose.

In every exercise with the Indian Clubs, the right arm performs the first motion, then the left, then both; each movement being executed several times. In order to perform every motion with accuracy—by which means it is made interesting to the performer, as well as the observer—you should take great pains to execute the motions correctly. As for instance, if the movement is with the arm straight and the club horizontal, be careful not to get it above that point; and when the motion is perpendicular, be sure to get it as near that position as possible. The same rule is to be observed through all the different motions.

Take the position as in Figure 1; body erect, breast outward, back drawn in, knees straight, toes turned slightly

outward; club in each hand, hanging pendent at the sides. The hand grasping firmly, but not too rigidly, raise the right arm in front, elbow straight, to a horizontal position five or ten times. Place the left arm the same way; then both.

Raise the right arm in front to a perpendicular position; left the same; then both; right hand sidewise to a horizontal; left the same; then both.



Fig. 1.



Fig. 2.



Fig. 3.

Right hand sidewise to a perpendicular; left the same; then both, as in Figure 2.

Right hand directly in front; swing the club over the right shoulder until it hangs pendent behind, as in Figure 3, the thumb of the hand touching the shoulder; the same with the left hand; then with both hands.

Swing the right hand in front to the left, as in Figure 4; then to the right, passing the club over the right shoulder

sidewise until it hangs pendent behind ; the same with the left ; then with both alternately.



Fig. 4.

Holding the clubs as in Figure 5, without moving the arms at the elbows, but bending only the wrist, let the club come down slowly to lie on the arm ; first with the right arm, then the left ; then both at the same time. Then go through the same motion with the arms directly in front.

Swinging motion in front, as seen in Figure 6 ; the arms should be swung well up, and come close down in front, first to the right, then the left. Be careful not to let the clubs

strike each other. This is a preparatory motion for more difficult ones in which the clubs pass behind.

Standing as in Figure 1, swing the left hand in front, the right behind at the same time ; arms not above a horizontal position. In this motion the body turns at the waist. (Figure 7.)

The clubs hanging pendent at the side, the right hand will make a complete circle directly in front ; left hand the same.

From first position, the right hand will make a circle at right angles with the body, left the same ; alternately, first right, then left.

First position. Raise the right hand opposite the chin, the large end of the club upward, as in Figure 8. Now raise the hand on a line with the right shoulder, and let the

outer end of the club fall toward the left shoulder, as in Figure 9. Making a full circle behind, bring it to the starting point before the face. The same with the left hand, the right hanging pendent; now with both hands alternately.



Fig. 5.

In first position, bring the club up in front, arm bent, and elbow close to the body. Now straighten the arm out in front, at the same moment the outer end of the club makes a circle. This is done wholly with the wrist; it is an excellent motion for the wrist and fore-arm. The same with the left hand; then alternately or simultaneously with both. This motion can be reversed by letting the clubs fall to the rear or reverse

way. This you will find more difficult. Remember the clubs go at right angles with the body.

In first position. Bring the clubs as in Figure 2, let them make the short circle behind, and a wide one in front. As it passes in front the arm is extended, the elbow straight. Same with the left hand; then with both hands alternately, as in Figure 10.

First position. Pass the right hand over the head, club passing the left shoulder, and hanging pendent behind. Keep the hand in this position. Now pass the left hand over the right shoulder, until the club hangs pendent.

Now raise the hands straight over the head, as in Figure 11, the elbows or arms stretched. Drop them again in their position. Repeat, first with the right, then with the left.



Fig. 6.

From the first position swing the right hand to the right; until the club reaches a horizontal position, then by a turn of the wrist drop it downward and backward. This will make the small circle behind. Now bring it in front with the arm extended to its full length, and make the large circle in front, as in Figure 12. The same with the left hand, then with both alternately, as in Figure 13.

There are many motions performed with the arms extended, the clubs being held vertically either directly in front or at the sides, from which they are dropped to the right, to the left, the outer ends toward each other, then

from each other, so that the handles touch. Those motions are no doubt good for strengthening the wrists and forearm. But as I exercise the same muscles in light Dumb Bell practice with less liability of straining, I simply refer to them here as not altogether calculated for new beginners.



Fig. 7.

From the first position swing the club to the right, and over the right shoulder behind; turn the face to the right, the feet being at right angles. Now swing the club in front, turning the body to the left; and when the club reaches a horizontal position, let it drop from you, turning it by the wrist alone. It will here perform a small circle. Do the same with the left hand, and then with both simultaneously, as in Figure 14. This is a splendid motion if done well; it exercises all parts of the body. Remember that when you are looking to the right, the clubs hang behind; when to the left, they make the same circle, by the action of the wrist.

Simultaneous Movement.—From first position, swing

the clubs up, as in Figure 2. Now extend the right arm sidewise to the right; at the same instant throw the left hand behind the head, the club making the short circle be-

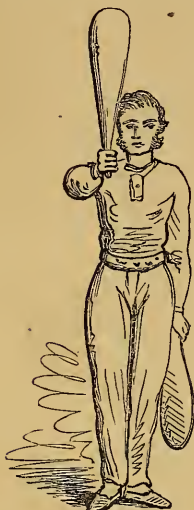


Fig. 8.

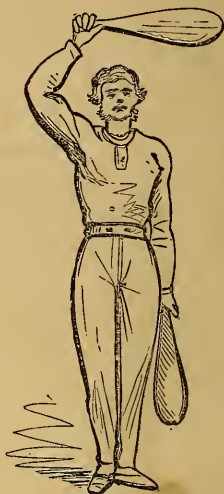


Fig. 9.

hind the back, while the right is performing the large one in front. Make the same over the left shoulder, alternately. This motion is also performed from a three-quarter circle; or, in place of starting the clubs from a perpendicular, commence from the right horizontal. They are both very graceful motions.

Spine Motion.—In this you can use a larger club. Both hands grasp the club firmly, and as you spring the club up, face to the right, the arms passing over the head, the hands just touching the back of it, the club hanging pendent behind, as in Figure 15. The feet should be eighteen inches apart, and at right angles with each other. Now swing the

club in front, being careful not to separate or close the feet, but simply turning on both heels as you face to the right or left.

Next separate the legs, toes turned out; the club hanging in front between them; arms extended. Now swing the club over the back, head between the arms as in the former motion; then in front, passing the club between the legs, and bending the body well forward, the upper part nearly forming a horizontal. These are two excellent motions for the spinal and abdominal muscles. Being so perfectly simple, they can be performed at the first trial.



Fig. 10.

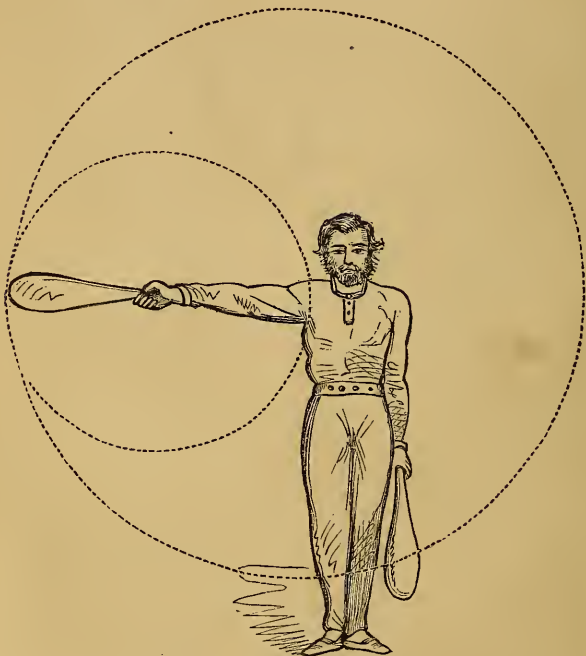


Fig. 11.

Simultaneous Movement.—From first position swing the clubs up as in Figure 17; turn the face slightly to the right; move both hands in the same direction, the right hand club making the circle behind, and the left the circle in front. The left arm is kept perfectly straight, while the right is

bent at the elbow, as in Figure 16. By alternating this motion you will find it more difficult.

Now reverse the position of the hand on the club. Instead of the hand grasping with thumb downward, it is close to the end of the handle. From this manner of grasping the club the exercise becomes more difficult. You will therefore use more precaution, and practice the motions very slowly at first.



• Fig. 12.

From first position bring the clubs as in Figure 17. Now bend the left arm at the elbow, and bring the hand of the same to the right breast, as in Figure 18. Now

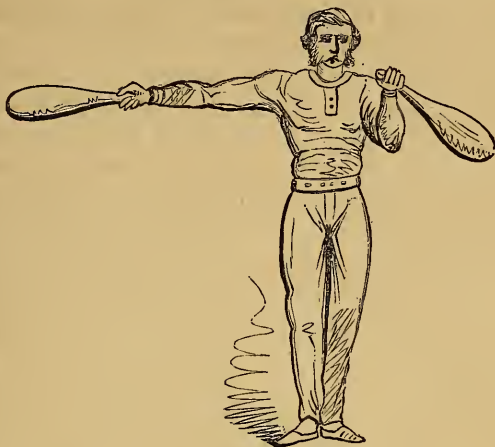


Fig. 13.



Fig. 14.

straighten the left arm, and bend the right so that the hand touches the left breast. Clubs grasped as in the preceding; bring them up in front; elbows near the body, clubs hang-



Fig. 15.

ing pendent. Raise the right hand to that side, and on a line with the shoulder. The outer end of the club will make an oblique circle by a slight movement of the wrist and elbow. The same with the left hand; then with both alternately, as in Figure 19.

Simultaneous Motion.—

First position. Swing the clubs up as in Figure 17. Now raise them together, keeping them at a distance of from six to eight inches apart. Let them drop be-

hind, over the right shoulder, both arms being bent. Now swing them in front, both arms extended as in Figure 20; then behind; arms bent, and so on. Alternate this motion also.

Simultaneous Motion.—First position. Put both arms in motion, clubs passing close to the legs. Swing upward, the left hand passing back of the head, and the club making a circle behind and over the right shoulder; the right hand following, and performing the circle in the same place. The left hand now makes the wide circle before the body, the right hand immediately following the same over the left shoulder; then alternately. This motion can be performed by making the club behind execute two short circles while the one in front is making one.

First position. With the right hand swing the club, hanging pendent, around the left shoulder, making a complete circle around the body. The left the same; then alternately. The above motion reversed, starting with the right hand. In place of passing it in front of the body, let it make the circle behind by a turn of the wrist and elbow. The same with left hand; then with both alternately. This you will find more difficult than the former; but it is, however, only a simple motion.

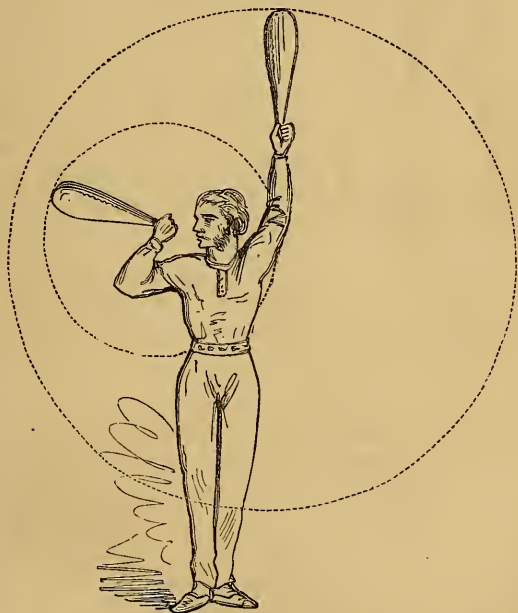


Fig. 16.

Simultaneous Motion.—From first position, raise the clubs as in Figure 2; then carry the hands up over the

head, being careful to keep both hands perfectly even. When the hands reach the top, and a little behind the head, drop the clubs in opposite directions; the right making a circle behind the right shoulder, the left behind the left shoulder.

Simultaneous Double Motion.—The upper motion the same as the previous, both clubs performing the circle behind at the same instant. Now cross the hands in front, making a wide or large circle; then behind again, and so on a number of times.



Fig. 17.



Fig. 18.

Simultaneous Triple Motion.—Hold the clubs as in Figure 2. Raise them over and back of the head, keeping the hands close and even. Now cross them, and make the small circle behind; next the large one in front, with arms extended, bringing the clubs again to the head. But in

place of the hands going behind, they are both thrown out straight sidewise, and the outer ends of the clubs make a circle on a line with the shoulder. This motion you continue in the time of one—two—three.



Fig. 19.

You may make a combination of four motions by adding the reverse forward to the three previous motions.

Clubs hanging pendent as in first position; swing the arms directly past the body toward the right side, where they are held horizontal, the right hand club laying on the right arm, with the large end toward the head, the left arm well across the body and on a line with the right. Now swing them to the left alternately.

Simultaneous Motion.—Clubs held as in Figure 15.

Throw the right hand to the front, the club making a circle at right angles with the body ; the left performing the circle behind the back ; first, the right in front, left behind ; then left in front, right behind.



Fig. 20.

Clubs hanging pendent, swing them past the body to the right. When they arrive at a horizontal position, the right hand club will make a small circle in front of the arm, of which the elbow must be straight. The left hand makes the large circle in front. Now to the left, the left hand making the small circle, and so on alternately.

Simultaneous Motion.—

Holding the clubs as in Figure 15, extend both arms sidewise at the same time, the clubs dropping from you and making a circle in front of the arms. Arriving at the proper position, they will make the circle behind the arms ; and so on, first in front, then behind.

From the position of Figure 2, throw the left hand out sideways, the club making the small circle behind the arm, the right hand following over and back of the head ; the left hand in the mean time passing in front ; the right also making the same motion, commencing with right hand ; then alternately.

From position of Figure 1, the right hand will make the small circle behind, then the left, then both alternately.

2.

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CHAPTER V.

ROWING.

IN New York, more than in any other city in the Union, are out-door sports indulged in. This metropolis has always felt justly proud of her pre-eminence in that respect. New Yorkers enter into those sports with a zest and spirit not found in any other part of the States. Known all over the world for their energy and their go-aheadativeness, it is said abroad that Americans live on excitement which they themselves furnish; and whether rowing or sailing on the smooth bay or river, practicing on the base ball ground, the skating pond, or the race-course, New Yorkers ably sustain the acknowledged superiority of their country.

There is certainly no out-door amusement superior to boat-rowing, or any with a greater number of advantages. It adds vigor and strength to the arms and shoulders, expands the chest, and can not fail to impart health and beauty to all who practice it. Under those circumstances it affords the writer great pleasure to see so many of our young men enjoying this delightful and invigorating exercise.

Clubs are now formed or forming in all parts of the States where the opportunity offers to enjoy this exercise. The students of Yale and Harvard have done much to inspire others to engage in this beneficial amusement. Taking a deep interest in all that pertains to the well-

being of man, and knowing that rowing is one that tends to promote his health and strength, I wish to impart to the beginner some knowledge of the Art or Science of Rowing, for it is well known that in the race-boat of the present day, no man can do justice to himself or the boat, unless he possess some skill in the art of handling the oar. The explanations that I am about to give will be plain and brief, and coming from one who has acquired them by close application and practice, can be relied on as being in all probability nearly if not quite right.

The two greatest yearly "events" which take place in England are the "Derby" horse-race and the "University boat-race." They are alike mainly in respect to the interest which they excite among the best classes in Great Britain. The interest in rowing is almost entirely free from the injurious influences which are so often to be found upon the race-course. It is true bets are sometimes made, but the amount is generally small, and they do not constitute, as in the case of the horse-races, the real occasion of the excitement.

Rowing is popular because it is a manly and healthful sport and pastime. There is a fascination which clings about the practice of this difficult and beautiful art between the rival universities in England. It is the best blood, the best culture, and the best physical development that go to make up the two crews. There is perhaps no sport or exercise in the world which affords a fairer or better trial of the finest qualities of manhood. To be one of a first-class crew, you must possess skill, patience, self-control, and above all, "game" or "pluck." This is needed in every walk of life, but more especially in athletic contests. There is always profound respect for the man who will endure and row a "game" race. The victory in a

well contested boat-race is something to be proud of; and hence it tends to promote health if properly indulged in; the pure air breathed into the lungs when rowing proves this to be not only strengthening to the muscular system, but also to the respiratory organs.

In ordinary breathing, the rate is, for a healthy man, from sixteen to twenty inspirations per minute, while the racing stroke is from forty to forty-four per minute. Now it should be understood that the breathing is regulated by the stroke; therefore the rate of respiration is augmented by both power and quickness. When a man is in a course of training, the muscles regulating respiration and circulation are suddenly called upon to do three times their customary amount of work. Often they fail, and this failure is set down to want of strength or endurance. But in my judgment it is caused more frequently by obstructions from internal fat. It must be remembered that training for strength and training for "wind," which is the second essential in rowing, are different things, to be attained by different means. All depends upon the work to be done. For lifting, a man's muscles—especially those of the arms, chest, and shoulders—must be powerfully developed. This is not so absolutely required in rowing, although it is certainly an advantage, providing the respiratory power is in keeping with the muscular.

Let us see for a moment how the law which regulates development affects the respiratory organs. Take the man who is strong, and anxious to become an oarsman. Why can not he keep pace with the man who has had adequate practice in rowing? Simply because he has not yet a rowing heart, lungs, arteries, and veins. His heart, lungs, and blood-vessels—the whole respiratory and circulatory system—have been trained for other circumstances and to

other occupations, and are fitted to perform their functions in another way than that called for in rowing. In rowing, the heart has to contract from 100 to 110 times in a minute; in ordinary life it is about 75 times. Just as occupation has made these organs what they now are, so will other occupations and exercises alter them, and the change will cause an increased activity in all the organs.

The health and ability of every organ in the human body is in relation to its activity. One might just as well set a cripple to run or jump, as to set a man who has led a sedentary life, with a narrow, flat, or defective chest, to row a boat-race. Such men have rowed races, but never without experiencing, at the close of the contest, faintings, giddiness, and nausea. Rowing exercise will improve all such, but racing never will—their lungs not being sufficiently strong.

Position in the Boat.—You should sit nearly straight—the head not thrown down, nor to the right or left, nor the shoulders shrugged up. The whole position of the upper part of the body should be natural. This will give the muscles of the arms and shoulders free play. The feet should be placed with the heels close, firmly against the stretcher, exactly in front of the body; the knees slightly bent, but not so that the handle of the oar will touch them. The shoulders must be kept square, in order that the work may be done squarely. The action of the body in swinging should be exactly “fore-and-aft,” or in a direct line with the boat, parallel with it. Great care must be taken that the body does not move in or out board; for this movement causes the boat to rock, by which means each rower loses the power of his stroke.

Thwart.—It is quite necessary that this should be of the exact height, so that you have perfect command over

the oar. If the seat is too low, although it may improve the stiffness of the boat, she will be very apt to drag; but if it is at the proper height, the action of the men will be better, and the speed of the boat increased.

Grasping the Oar.—This is the next essential point; unless the oar is grasped properly, you will find it difficult to do the work right. The outside hand should be placed with the thumb above the handle, while the inside hand grasps with the thumb beneath. The hands must not be over four or five inches apart; I think by the thumb of the outside hand being upward, there is a slight increase of power. The inside hand, with the grasp, is in every case the controlling power of the oar. The elbows must be kept close to the sides, and in the stroke should be well extended.

Length of Stroke.—The hands should never reach over the toes. There are two reasons for this. The first and principal one is, that the more you extend the hands aft or over the toes, the more you throw the blade of the oar forward, and the greater will be the angle when it enters the water. The power should be put on the oar just before it becomes parallel with the boat, and from that time until the finish of the stroke. This gives the boat the "shoot" while the oars are out of water, or while the "recover" takes place. The second is, that it cramps the muscles of the stomach too much, and causes too great exertion to make the recover. Again, when the speed of the boat is to be increased, the stroke should be quickened, but not shortened. The stroke should always be long and uniform, but the recover quick. The greater the power applied to the oar, the greater will be the speed of the boat, provided that the oars are not too long out of the water. Many fall into the error of shortening the

stroke when called upon for a "spurt," by which means the very power that propels the boat is lost in the air by the rotary motion made by the blade before entering the water.

Placing the Oar in the Water.—Great care must be taken that the oar enters the water rightly. If the lower part of the blade should in the least slant, or incline toward the after part of the boat in entering the water, it would tend to press the boat down on that side; and if the same part of the blade entered the water inclined toward the bow, the action of the oar would be upward, or, perhaps, the rower would "unship" his oar. The blade of the oar should enter the water exactly at right angles with the surface. That is, if I place the flat or wide part of the blade upon the water, I would call it parallel; but if I put the oar in edgewise, as it is used to propel the boat through the water, I would say it entered at right angles; and no man can row well unless his oar enters exactly in this form.

The Feather.—This is the action of the blade of the oar on leaving the water at the finish of the stroke. It is done by a slight turn of the wrist toward the body—the blade leaving the water at an angle of from forty-five to fifty degrees. Great care must be taken that the upper edge of the blade inclines upward; for otherwise you will be liable to "catch crabs." I have seen many who were called good oarsmen—and for strength and endurance were really very fair—who neglected entirely the scientific principles of rowing. They were careless in putting the oar in the water, and as much, if not more so, in taking it out.

I have already attempted to show the errors that are made upon the oar entering the water. The oarsman

should be equally careful to correct the fault of the oar leaving the water in any except the right way. Unless the oar is properly "feathered," it will make "back-water" at the finish of the stroke. Now to prevent this, you must see that the blade only takes the water; then if the wrist is turned, as I have described, at the proper moment, there will not be an ounce of back-water. But if you press the oar deep, so that the shank is submerged, as many do, you make extra labor for yourself, and hinder the speed of the boat.

Movement in the Stroke. — When four, six, or eight, or whatever number compose the crew, commence to practice, the first thing to be taken into consideration is the "stroke," and its proper execution. There may be no two of a crew of the same height, or length of body. One may have long arms, another short. Still the stroke must be of the same length,—unless this is done, the boat will not go steadily, or upon her bottom. The first duty of the stroke-oar, which is the most important position in the boat, is to see that he does not overreach his crew. I have seen some row in this place who labored under the erroneous impression that the longer they made the stroke the better it must be—losing sight entirely of the capabilities of the other members rowing with him. The stroke should be long and uniform, so that each man's power can be drawn out to the fullest extent. The "stroke,"—if he takes an interest in the crew—will observe carefully the action and style of rowing of each man. In order to do this, he will let a friend take his place occasionally, and he will be rowed in another boat; and whenever he discovers faults, he will try to correct them on the instant.

Equalizing the Power.—This is a very important mat-

ter, and one frequently lost sight of by some of the most expert oarsmen. Unless the power upon each side of the boat is equal, the rudder must be used,—and this immediately hinders the “way” or speed of the boat. Nearly every man has his favorite side upon which to row; and if you place them upon the opposite—although it might be done for the purpose of making the sides equal in weight, power, or perhaps both—they are apt to complain, forgetting that it is by this means they become scientific oarsmen. A man knows little of rowing, or handling the oar, who can row only on one side. After the selection of the crew, the next important point is equalizing its power; and this must be done almost regardless of weight. In the old style of boats, where each man was obliged to sit close to the side, weight had to be taken into consideration in order to keep the boat on an even keel. But now the boats are quite different, being only wide enough to sit in. The first thing to look to is the propelling power, and to place it in such a position that it will produce all the speed possible. The power being equal on both sides, the boat glides through the water upon a straight course, the cockswain having no occasion to use the rudder. There is no resistance, and consequently the speed of the boat must be increased.

Oars Entering the Water at Equal Distances Apart.—This must be strictly observed by each one of the crew. The distance between the blade of each man’s oar as it enters the water should be exact. Then every one of the crew takes the weight at the same time, and the boat will go steady and upon her bottom. But if one is short in his stroke, and his oar strikes the water in advance of the others, he not only gets the weight of the boat first, but it tends to give her a rocking motion, which frequently

throws the whole crew out of stroke, and consequently lessens the speed. This is an error to which I wish to call particular attention, for I have seen it so much in practice that I have sometimes thought that one of the most important and essential principles in scientific oarsmanship was being lost.

As I have said before, the stroke should be uniform, so that each one of the crew can take and execute it with ease and grace. If it is very long, then the short-armed or short-bodied man is obliged to make an extra exertion in order that his oar will enter the water at the proper distance. The movement of the body if possible should be the same, or as near the same as the different formations will permit.

The Stroke.—In this there can be no regular system laid down as regards the length, and so on. The grand and most essential point is to lay out the strength to the best advantage, although I think that no crew in a contest should row less than forty strokes per minute. This can be made a full, long, sweeping stroke, but not slow, as the number will show, the shortness being in the “recover,” or when the oars are out of the water. It should be smooth and uniform, without any splash or jerk, the oar entering the water, as I have before fully described, fair and clean, feeling the weight light and gradually at first, then increasing the power until abreast of the rowlock or outrigger, where the full strength is put on, and from that to the “finish” or end of the stroke. Skill must here be used to “feather” clean, without holding or raising water with the shank or blade. The manner of performing this I have fully explained under its proper heading.

Many differ in opinion in regard to the height. The blade of the oar should be from the water on the recover,

or as it passes from aft to forward. But in this there can be no regular or specific height given. It depends entirely upon the state of the water. If it is smooth, the "feather" should be low and natural. There is not the slightest danger of the blade touching the water between the strokes while in the hands of a skillful oarsman. When the water is rough, the oar must be raised just high enough to clear the ripple.

I have been informed by a gentleman who witnessed the contest last year between the Oxford and Cambridge crews, that the former, between each stroke, raised their oars exceedingly high. If that was so—and I have no reason to doubt it—it must have been in consequence of what is called in England "lumpy water," or what we call "rough water," for I can not believe that the crew that could make such a race and time as was made on that occasion, could have done it with their oars swinging or hovering in the air. It is performed only in my judgment by science, nerve, strength, and endurance. If each one of the crew moves and takes the water alike, it will be almost impossible to detect the slightest alteration in the speed of the boat between the strokes; that is, provided the swing of the body is not over the perpendicular. The body should swing very little, if any, beyond the perpendicular. When the bodies of four, six, or eight oarsmen are thrown backward or toward the bow of the boat, it must tend to press that part down, causing her to "dodge" or "dip;" and if the bow goes down, the stern must necessarily come up. Thus you see the water lines of the boat are changed at every stroke, and consequently impedes her speed.

Trimming the Boat.—Getting and keeping the boat in trim is very essential when speed is required. A boat

should be rowed upon her bottom; not first on one side and then on the other. Nor should she be trimmed either by the bow or stern, but exactly upon an even keel or bottom. This can generally be done by placing the heavy men amidships or in the middle of the boat, where in every case the strongest men should be seated.

Principal Faults in Beginners.—1. Stooping forward over the oar just before or at the finish of the stroke. 2. Making the first half of the stroke in the air, or not putting the oar in the water until it gets abreast or abaft the rowlock. This is one of the expedients often used by men who are shirking the work. It is a sort of accompaniment to the previous fault. 3. Not extending the arms at the elbows, but keeping them partially bent, thereby losing much power. 4. Round rowing; that is, performing too great a circle with the blade of the oar both out and in the water. That is, as the oar goes forward the blade is high up in the air, and in entering the water it is plunged down deep, by which that side of the boat is dragged down, and her way partially stopped. 5. Raising the elbows out and in board from the sides. This practice has not only a very bad appearance, but much of the power is lost. 6. Turning the head at every stroke to look at the oar. This not only tires the muscles of the neck and shoulders, but leads to uneven rowing. 7. Shortening the neck by dropping the head toward the breast, thereby raising the shoulders and preventing free breathing. 8. Turning the head to look at every passing object. The foregoing are the principal faults of beginners, which by a little care and attention might be avoided.

Stroke-Oar and Keeping Stroke.—As the stroke is given by the person rowing in that position, so it should be taken and imitated by each one of the crew. It is presumed that

you have selected the very best man in the crew for that place. I mean the best man as regards skill and science in the work he is called upon to do while in the boat. If that is so, then by every means in your power try to become equal to him. Measure well the length and depth of each stroke; follow if possible the exact movement he makes, and keep the stroke to the very second. When he is pulling strong, you do likewise; when easy, you will do the same. A man that is pulling easy, or what is called "shirking," when the rest of the crew are rowing hard, though he may keep time, can not well keep the stroke. It is only necessary to watch for a moment the blade of his oar, and the fault is detected. The speed of the boat depends entirely upon the true and perfect action of each man, laying out his or their strength at the same moment, to the same degree, and in the same direction. Perfect time being kept, their acts become simultaneous, all moving and performing as one man. So important is keeping the stroke with true accuracy, that a crew pulling well together will always beat one of heavier, stronger, and perhaps better men, who row in different or various styles, or what is often called "every man upon his stroke," no two oars taking the water at the same time. For speed, the action and power must be simultaneous.

Meeting the Oar.—This is most generally caused through weakness—principally of the back, or it may be from a tendency to shirk: the one being impossible to prevent until the strength is restored by exercise; the other caused or produced by disinclination or laziness. Whatever may be the cause, it is a habit which is exceedingly difficult to remedy, especially when weakness has produced it; for here the back has not the power to bring the oar through the water in the same time as the stroke. Consequently

the body meets it, by which means the force and power is lost.

Early Practice.—The excellence or beauty of rowing lies in doing it well. There is nothing that enables a beginner to detect and correct faults as slow, careful rowing at first. Twenty or twenty-five strokes per minute are quite enough to commence with; then almost every fault is visible. The movement of the body, the length of stroke, the entering of the oar in the water—in fact, about every error can be noticed at this pace. It is in this rowing that the correct style should be fixed upon, and all ought to follow it to the best of their ability.

I have already described the proper manner of holding the oar, but in rowing with ease, grace, and style, the following points should be considered: each man must have his rowlock of the exact width, so that he can get his full reach forward. The body should be bent forward at the hips only; the back straight; head well up; shoulders freely extended; the eyes glancing horizontally toward the blade of the oar, but not so that the head is turned. The oar should enter the water without any “slap” or splash, the blade at right angles with its surface; then the “pull.”

This is the most important and difficult point or part to get correct, and nothing but practice will give the oarsman skill and science to tell the exact moment in which the greatest amount of force and power should be put on. I have said elsewhere that it should be put on just before the blade gets abreast of the rowlock, and continued from that moment until it leaves the water.

Close application, with many years of practical experience, has satisfied me that with this system of rowing, a greater amount of speed is gained. It will often appear to

the casual observer, while looking at a well practiced crew, that the power is put on at the moment the oar touches the water. But it is not really so. As soon as the full stroke is attained, the arms and shoulders bring the oar home by bending the elbows, but keeping them close to the body, the back nearly straight, the shoulders natural, the chest open, that the lungs may have full play, the head easy, and not bent forward. I have said that this practice must be executed slowly and with much care and attention; then, as you improve in skill, increase the number of strokes and their power. The quickness and strength must be kept up only as long as you are rowing or striking together. The moment you feel fatigued, ease up, and when refreshed, try again. This is called rowing hard, or "spurting." The average number of strokes for perfect execution, should not exceed forty-four per minute; beyond this number the exertion becomes so great that much of the power is lost.

How to Train.—It is important to know how to train for rowing, walking, and running, or any exercise or competition where science, stamina, and endurance are required; to learn how to get into the finest possible state of health and condition. Vigorous health and fine condition is every thing, and in this state a man can do almost any thing. The true principle of training is to nourish the body as rapidly as possible, and at the same time get rid of the loose or "soft flesh."

Training may be compared to the rapid consumption of fuel in locomotive engines by a quick draught of air, and the production of steam from an immense extent of heated surface, obtained by exposing to the fire many tubes filled with water. The best of fuel is supplied to the man in training in the form of food. His smoke and cinders must

be got rid of rapidly, so as to excite the fierce combustion demanded for the pace he has to go and the long continued efforts he has to make.

Now, to accomplish this, the fire-grate and chimneys of the human engine must be kept clear and in perfect working order. The skin, which lets off the waste steam and smoke from millions of pores or something like twenty-eight miles of tubing, is of the first importance. By long experience from the Greeks and Romans up to the present day, those taking an interest in physical culture have paid the closest attention to the skin, whether in the preparation for a contest between men or horses. A great amount of friction is necessary for cleansing the skin. Perspiration is excited and kept up at regular intervals, and the pores are cleansed by rubbing first with coarse towels, and then with sponge and water. By this means, the circulation of the blood in the minute net-work of vessels all over the body is assisted. A man in good health will discharge from two to three and a half pounds of water alone from the skin daily. But in training, this is greatly increased.

Then the lungs, being nearer to the central furnace of the body, are of even more importance to be kept at work. Then the skin, for from them the principal part of the smoke must be got rid of, besides a good deal of steam; or, in other words, carbonic acid gas and watery vapor. In ordinary health a man expires about twenty-one ounces of steam daily; of course a man undergoing great exertion breathes off much more than this. We can all readily see that for a man to have what is called good "wind" or endurance, his lungs must be able to bear the constant and rapid contraction and expansion, and the strong action of the heart in driving on the vital stream, without fatigue or distress. I would advise no person with a weak chest ever

to attempt to go into a hard course of "training," though the regimen or exercise very moderately and gradually applied would be beneficial, by expanding and enlarging the chest, for it simply embraces the well-known precepts of fresh air, exercise, simple food, no excesses, and early hours.

Training is for those who are favored by nature with a strong constitution, and who can endure exercise occasionally as severe as the man who is preparing for a contest upon the water goes through. By it the lungs are ventilated as they can not be in ordinary exercise, and the high vigor of the system maintained. In quiet breathing, as much as 100 cubic inches of air remains in the chest, while only about 25 inches is expired. But with active exercise, this is increased to 140 cubic inches, and renewed at the rate of from 40 to 50 times in a minute.

As athletic games are becoming so popular with us, and many young men being ambitious to engage in them either for pleasure or fame, I will lay down some rules as a guide by which they will be able to perform to better advantage. Many men try to get into condition for competition whose business prevents them from devoting much time to training; it is for this class that the following advice is given. I do not mean to say that this course will bring a man to any thing like perfection, but he will be able to acquit himself respectably in any competition. I know many young men, and I believe there are thousands who would like to train, but the principal portion of the day being occupied either at study, in an office, or elsewhere, they imagine there is no time for exercise or to improve the condition. But I must be allowed to differ with all such, and I have not the least doubt that I shall be able to convince them to the contrary.

Now what has been the general course of practice with our amateur boat-clubs just previous to a regatta? The gentlemen composing the crew, or the greater number of them, have perhaps been confined to an office all day; they enter to compete for some prize, or for that which is of more value—fame and honor. They are perhaps ignorant of or throw aside entirely the strict rules of training, but commence reducing themselves. How do they do it? They get into the boat at night when the dew is falling, and row until they can hardly raise the oar out of the water from fatigue and exhaustion. When they arrive at the boat-house they are in a profuse perspiration. Then in place of rubbing dry and taking a fine sponge bath, putting on dry clothing and going to bed, they often walk home in their wet clothes. Some being more indiscreet than others, will stop at an ale-house and drink, getting home at a very late hour. If a man has the strongest constitution possible, such action will soon break it down. This is what I call the worst kind of training. It would be far better to take none at all.

The man going into strict training wants and must have patience, for without it no one can ever get into the required condition. It generally takes from thirty to sixty days, according to the amount of superfluous flesh to be removed. To do this a man must persevere. Some degree of courage or tenacity is here required, and unless you have it, it would be very doubtful if you would stick properly to the rules of training.

I have seen young gentlemen, when first selected for a crew, exhibit symptoms of nervousness. This operates against a man at the moment of excitement, and is apt to deprive him of much of his natural power. But I would ten to one rather see a man a little nervous than to see him

over-confident ; for I have always found the nervous man to pay stricter attention to his training than the over-confident one. Over-confidence has lost many a race by the men not getting into fine condition.

The old system of training, in my opinion, was perfectly ridiculous. It took from the man much of his vitality, and left him in many instances a perfect wreck.

The modern one, although perhaps subject to many improvements, is beyond all doubt the proper one. The right method of training is to get into condition with a lasting benefit to the constitution.

First, then, remember exercise creates the demand. Food yields the supply. This must be the result if the system of exercise is properly carried out. In olden times the Greek and Roman athletes paid great attention to the physical exercises, but at the same time were allowed to gorge to their fullest extent. This is not so at the present day. Two good meals a day, with meat, is considered quite sufficient :—those are breakfast and dinner. The supper should be very simple, composed of oatmeal, biscuit, dry toast, tea without milk, and with very little sugar. After supper a short walk might be taken, and then to bed at nine or half past nine o'clock.

Walking and running are the chief exercises to improve the wind and reduce the flesh. The man in training should leave his bed at six in the morning in his usual training dress. Flannel must be worn next the skin. Commence the walk at a moderate pace, and as the blood gets into a brisk circulation, increase the speed. From two to four miles should be gone over every morning, providing the air is dry and the walking good. The last mile in coming home must be done on a run. Try occasionally a spurt, in order to see how the wind is improving.

Then go immediately to a room where there is no draft; remove first the hat or cap, next the pants and drawers. Now apply the coarse towels, and rub dry. While this is going on, you will find the perspiration flowing freely from every pore in the upper part of the body. Slip off the shoes or boots, wipe the feet dry, and put on dry stockings and drawers. Now pull off the shirt, and rub perfectly dry; after which a sponge with cold water can be passed quickly over the chest and shoulders. Wipe dry, and dress. A series of strong gymnastic exercises is sometimes adopted. Great attention should be paid to the condition of the skin. It should be smooth, soft, yet firm, and tight over the muscles, having the look of a blood horse when in perfect condition; what I might term a transparent brilliancy. The muscles should stand out hard and prominent, and showing no rounding-off by fat. Persons in good health train full and plump. I mean they will look much larger stripped, although they may be from ten to thirty pounds lighter than when they commenced exercising. But if they fall off, it shows that they are not able to bear the severity of the process.

Persons while training must avoid taking liquids in large draughts, as it is prejudicial to good digestion. Thirst always follows or arises from violent exercises, and great care must be taken in the manner of quenching it. This should be done by sipping small quantities, rinsing out the mouth, pouring water on the wrists, etc. Never take large draughts after severe exertion. I believe water to be the very best beverage to be drunk during any strong exercise—such as walking, running, rowing. Tea, if drank moderately cool, is, however, a very light and stimulating drink; but beer and spirits of any or every kind, are fatal to all great efforts.

A diet in which flesh is the principal article, is indispensable in our climate and with our habits. There is this important piece of encouragement in favor of adopting a regular system of exercise: that when the body is in perfect working order, the digestion partakes in the general high tone. A man then feels like a man, and rejoices in having the stomach of an ostrich—but the stomach once out of condition, how miserable we feel. Each day is almost a misery of life. Now what is there to prevent or hinder all men from attaining the full physical capabilities with which nature has endowed them? Unfortunately, such is the demand nowadays for intellectual prowess, that the poor body gets neglected, and too often cruelly sacrificed. Most men dislike training, not on account of the work there is to do, but because it is so seldom done properly. Great harm is often done by the attempt to put a man who is out of condition through a course of training in too short a time. This kind of work can not be hurried over; it is the haste that causes the injury.

Selection of Men for a Boat's Crew.—In selecting men to row, you must keep in view the kind of work there is to be done, and examine well the frame-work that is about to do it. The work to be done consists in pulling an oar or scull through the water by the muscles of the arms, shoulders, and back, together with the resisting power of the legs. Much of the power exerted by the whole upper part of the body is conveyed by the thighs and legs to the stretcher, which acts as the resisting power, and prevents the seat from gliding off the thwart. It is necessary that the legs should be strong without being fleshy. Now in making the selection of a boat's crew, it must be borne in mind that the following points are essential—though of course this, like all rules, admits of exceptions.

First, then, look at the depth of chest—for unless there is lung capacity, the muscular power will not be sustained through the full distance. Next, the arms, shoulders, and back should be considered. These should be strong and muscular, or covered with that which exercise would convert into muscle. The arms should be of good length, with full shoulders. The loins must be strong. A man can not always judge aright by merely looking at this point. Some men there are who have very small waists, yet are remarkably strong; others with large ones are comparatively weak. This can be only rightly known by a trial. What would be the action of a man rowing, who had strong arms and shoulders, but a weak back? The body, instead of drawing the oar to it by the muscles of the arm, would, in consequence of the loins being weak, itself be drawn forward over the oar, and the stroke be rendered ineffective. It is a very difficult matter to tell to any degree of certainty the strength or capacity of any individual unless by an actual trial; for so much depends upon the early habits of a man, that no conclusion from the formation can possibly be arrived at. You take a slow awkward man and place him in the present style of race-boat, and he would in all possibility prove useless.

Now having examined the muscular strength, we turn our attention to the “wind”—the lungs and the heart. There should be no cough. The heart should be healthy and free from palpitation or any excitement.

In regard to weight, I believe that 160 or 165 pounds is the very best weight that can possibly be placed in the present class of boats for speed. As a general thing, in men that weigh over 170 pounds, the weight is out of proportion to their muscular power. I know of but two exceptions to this. With the old style of boat that was

formerly in use, heavy men were wanted to drive them through the water; but within the last few years, great improvements have been made in the model and weight of boats. The lightest weight should not be less than 138 or 140 pounds. If there is too much difference in the weight and strength of the men, the oars will not be pulled through the water with that precision and power, without which the boat will not attain her full rate of speed. Between 160 and 140 is the weight in condition; nearer the former than the latter if possible.

The Practice Each Day.—The crew being selected, they will now commence work. It is by all means desirable that they should take their walks, runs, and meals together. In order that this may be done, board should be taken at some good farm-house near the river or lake, where at all times you could take your practice in the boat, regardless of wind or current. If it is summer, you should rise at 6 A. M., and take the morning walk and run, of from two to four miles, according to the state of the weather and the roads. If the morning is stormy, take exercise in-doors; bring the skipping-rope, Indian clubs, swinging-bar, dumb-bells, and so on. At the conclusion of the exercise, rub well with crash towel, to be followed with sponge and cold water. Wipe dry, and put on well aired flannel. At 8 o'clock you will be prepared to enjoy your first meal.

Breakfast should consist of finely broiled beef or mutton, with biscuit or bread a day old, with perhaps some dry toast. Tea without milk, and very little sugar; this must not be taken too strong. Coffee or cocoa must not be used.

After breakfast, the time can be spent until 10.30 in any bodily amusement that will not produce fatigue—a game of billiards, quoits, or the like. At the hour appointed, the

crew should be in their boat for their morning's practice. If the training is for a three mile race, the exercise in the boat should not exceed thirty-five minutes. If for a five mile race, forty-five minutes. Many men are under the impression the longer they practice, the better they row, forgetting that after becoming tired, it is next to impossible to row well in a crank boat. It is not the longer you row that imparts the skill in rowing; it is the more frequently you practice. Returning from the exercise, you should not be in a condition ready to lie down, but after washing and dressing, feeling refreshed by taking it.

Upon getting out of the boat, five minutes' exercise can be taken with the clubs, then wipe dry, and if it is a salt water stream or river, take a plunge in it and out again, on no account remaining in the water over three minutes. After being well rubbed, and clean and dry clothing on, take a book and sit down till it is time to dine.

Dinner should consist of roast beef or mutton, with occasionally roast chicken—say once a week. The meat should always be cooked to please the fancy of those who partake of it. Many labor under the false idea that the meat should be quite under-done, or very rare. This is wrong; meat should be placed before the man cooked in a manner that he can best enjoy it—then it is pleasant to the palate, and digestible to the stomach. I have seen some whose stomachs rebelled against rare meat, but who were told that was the only way they must eat it. When in training, those of the crew who like it rare, should have it so, while others who may have been used to eating it better done, should have it so. Any thing that pleases and tastes well to the palate, will be well masticated before it is passed into the stomach; but that which is put into the mouth and swallowed without relish, takes much longer to

digest. This will hold good with all of us in every day life.

All other meats must be avoided except those named. In the early part of the training, potatoes may be eaten, but very sparingly. Stale bread and biscuit, with a glass of water or cup of weak tea, are admissible. If a man is training well, there is not the least doubt that he will eat and enjoy this diet. There are some stomachs that are constantly craving for a change. This can not be. If a man does not work and sleep well upon good roast beef, mutton, and chicken, be assured he will not on any other kind of food. Every third or fourth day, a pudding may be partaken of. The foundation must be bread or crackers, with little or no milk, and from two to four eggs. I should not advise any to partake of this unless they really felt that the stomach required a change, and this they could relish.

Half past three o'clock should again find them in the boat for their afternoon row. The same distance as in the morning should be taken. On the return from this exercise, attend to rubbing dry, with also hand friction. At seven prepare for supper.

Supper.—This should be a light meal, and I know of nothing better than oatmeal porridge, with dry toast and a few fresh strawberry or raspberry biscuit. Tea may be used, not too strong, with little sugar and no milk. Occasionally a soft boiled egg can be taken.

I have before remarked that much depends upon the constitution. Some will require a more liberal diet than others. A man who is hardy and whose appetite is good, will train well upon the plainest food; but another whose constitution is delicate, must be allowed some little change from day to day. Some stomachs are purged by oatmeal;

when this is the case, it should be avoided. When the men are inclined to be slightly loose in their bowels, toasted bread must be used; or if constipation exists, coarse brown bread, made from the best undressed flour.

I have now given the routine of each day's exercise, which, if taken as directed, will bring the rower into good condition on the day of the race.

A Day's Training for Rowing.

Rise at 6 A. M.—Walk; slow at first; as the circulation increases, quicken the pace. One mile out, returning on a run. A dry rub down first, then cold sponge bath and rub.

Breakfast at 7.30.—Mutton-chop or steak broiled; stale bread or toast with tea.

Exercise.—The morning row at 10, terminating at 11.

Dinner at 1 P. M.—Beef or mutton roast or boiled; one mealy potato. (See changes under head of training.)

Exercise at 3.30.—In the boat, concluding with a good spurt.

Tea.—Oatmeal porridge; tea, toast, one egg boiled soft.

Bed about 10.—No food should be taken upon going to bed.

Summary.

Sleep.—Between eight and nine hours.

Exercise.—Walking and rowing about four hours.

Diet.—As above.

The above rules are of course open to modification according to circumstances; but it must never be lost sight of that good work, regularity, and cleanliness are the principal if not the only rules to be followed to produce thorough good condition.

Sanitary Hints.

I add a few hints on the treatment of some disorders by which oarsmen are not unfrequently annoyed.

Blisters on the Hands.—These are very troublesome, and should be prevented if possible. A preparation of rock-salt, vinegar, horse-radish ground, and arnica, mixed and rubbed upon the inside of the hand once or twice each day, will soon toughen the hands so that the friction of the oar will not blister them. Should blisters form, they should be pricked

with a very fine needle, to be inserted obliquely from under the old skin, and the watery fluid contained therein pressed out. I am not in favor of the oarsman, at any time when rowing, putting on kid gloves to protect the hands. If the hands are naturally soft, they should be kept out of the water. The wash I have mentioned will free them from dirt, and water would only tend to soften them.

Blisters on the Feet.—The feet must be kept scrupulously clean. Should there be any hard, callous flesh, it must be pared as close as possible with a sharp knife, taking care not to make the part bleed. Then rub on a little simple ointment, or what I have never found to fail, the inside part of the skin of a boiled potato. Use only soft, loose shoes or boots, with thick soles.

Blisters on the Seat.—These come from the friction of the thwart, and frequently upon the hip nearest the side of the boat to which you row. They are often very difficult to cure, but I know of nothing better than to wash three or four times a day with castile-soap and milk-warm water. And at night upon going to bed, rub over the parts a salve made from castile-soap and arnica.

Boils.—These are exceedingly annoying to the oarsman. Upon their first appearance, due attention must be paid to them. If they are upon the seat, or near the hip of the rower, as is most always the case, the best plan is to apply a stimulating plaster, which can be obtained at any drug store. This will ease and relax the inflamed vessels, and to a great degree relieve the pain. When ripe, they will often break of themselves; otherwise they should be discharged by a needle or lancet. The bowels should be kept regular, and sea-bathing taken at least once each day.

Piles.—I have often found men complaining bitterly about this exceedingly painful disease. Piles are in almost every case occasioned by costiveness and cold. These disarrange the liver, and when once this organ is out of order, the whole machinery in the human body ceases to work smoothly. The following remedy I believe to be the best. First, attend to restoring the integrity of the digestive functions. This done, take frequent sitz-baths; temperature at between 50° and 60°. Just before and after each stool, bathe well the parts with cold water. If the bowels are gently moved once a day, and the piles remain still painful, the application of the following ointment will give relief: Take of ointment of acetate of lead, an ounce and a half; of finely powdered opium and gallic acid, one dram each. By this treatment, piles may almost always be relieved, and sometimes cured. But on the recurrence of disordered liver,

they will be sure to reappear; and therefore every preeaution should be taken to guard against indigestion. Exercise and proper diet are the very best medicines for this disease.

Day of the Race.

On the day and the one previous, very little exercise should be taken. A walk may be indulged in before breakfast, after which the crew may amuse themselves at chess, or backgammon, or the like, till about two or two and a half hours before the race, when you should take a good meal of roast beef or mutton, hard bread or biscuit, with water or a little weak tea.

Thirty minutes before entering the boat, each man should be stripped, and first rubbed well with the hands, particularly upon the arms, shoulders, and back. Then take alcohol of ninety-five per cent. proof, and wash well the whole body, arms, shoulders, back, loins, and legs. These must be rubbed with the hands until dry. There are always friends to be found willing to perform this five minutes' labor on such a day. Next put on the rowing shirt, drawers, and slippers; over may be worn a pair of pants and loose coat, which must not be taken off until every thing is ready for the start.

The Start.

Now is the time to be cool and collected. A man of nervous temperament will always be more or less excited at this moment, yet the exercise that he has taken has so strengthened the whole system, that if the mind is where it should be—upon the work that is to be done—he will exhibit little if any excitement. I have upon more than one occasion seen races lost through nothing but timidity or nervousness. This is frequently caused by the oarsman looking at every thing but his business. His duty at this

moment is to keep his eyes and thoughts only upon his boat and oar. The smallest and crankest boat that has as yet been rowed in this country, has been rowed by amateur oarsmen. I simply mention this fact to show that most of those gentlemen work with their brain as well as their muscle, which is required in the race-boat of to-day.

Every thing being ready, you are waiting for the report of the pistol or the word "Go!" The accompanying illustration shows the position that each man should be in at the moment this word is given. Above all things be careful that the blade of the oar takes the water right, and all at the same instant; then the boat glides away upon her bottom, and every man can pull with all his power. If you are successful in obtaining the lead, the "stroke-oar" should, as soon as possible, cast his eyes at the working of the opponents; and if he thinks it prudent, may call to his crew to ease a little. This often gives confidence, particularly to those who have never rowed in a race before; and with one who was tired or nervous at starting, doubles the amount of strength. When there is a turn to be made in the race, use judgment, and place sufficient distance between you and your opponents, if possible, so that you will not touch each other at that point.

In turning a stake or stake-boat, much depends upon how your boat arrives there. If the line from the starting-point to the stake be straight, then all should for a moment "hold water," in order to slightly kill or stop



Six-oared Shell-Boat.

the way of the boat ; then if the port side makes the turn, the starboard must back hard. This is not a good or safe method of turning ; the boat should get there on what I might call a quarter turn, or a sort of quarter circle ; then there is not the slightest trouble. I once saw a good crew beaten by making a poor turn, coming to the stake in the manner first described. The boat that has the lead after the turn is made, can scarcely lose it unless some accident should happen.

At the close of the race rub dry, and put on clean and dry garments as quickly as possible. Wash the mouth out with water, after which a sherry and egg may be taken, but nothing else. Remember this is not the time to gorge. The internal organs require rest for a short time, and they should have it.

Rowing with Sculls.

Having described the manner of rowing an oar, I will give some hints on handling the sculls. The principle is exactly the same, except that one person uses two sculls instead of one oar. His place is in the middle of the thwart, as in the accompanying engraving. The sculls should be grasped with the thumb underneath. Care must be taken that they both enter the water at the same time. The power should be equal, except when you want to turn or avoid touching any thing.

I would advise all beginners to first practice in a good stiff boat before they venture in an outrigger, or even a narrow one ; there is really little danger of accidents, and you will always enter a small boat with much more confidence. It is the knowledge how to do a thing that gives one this feeling. One who knows exactly how a piece of work is to be done, finds no difficulty in doing it. So it is

with an oarsman: if he can row well in a wide or comparatively stiff boat, he will have the confidence to venture in one lighter, for he has now what he did not have at the commencement—practical knowledge of the work to be done.

We have at present in this country, as they have also in England, two distinct styles of rowing, namely: the short and quick, and the long sweeping strokes. Both have their advocates. In this country the gentleman who pulls the short quick stroke is the champion; in Europe it is the opposite: the one pulling the long stroke holding that proud title.

There can be no distinct rule laid down with regard to rowing sculls. In my opinion much depends upon the natural form and build of the man.* Experience teaches me that a long-bodied and long-armed man could not pull a short, quick stroke as well as he could a long sweeping one. His form operates against him doing so. Upon the other hand, take a short, stout, compact, muscular man, and he will row a short, quick stroke to great advantage, but would



Single-sculls Boat.

* It would be a difficult matter to find a better specimen of a man possessing a naturally fine organization and fully cultivated, than the stroke-oar of the Yale Crew of 1864-65. This gentleman possessed both muscular and respiratory power in the highest degree. His measurements were: height, 5 feet 9½ inches; weight, 154 pounds; chest, 41 inches; fore-arm, 13¼ inches; upper-arm, 16 inches—taking in both biceps and triceps, the measurement was 17½ inches; age 21.

do very little with the long one. Therefore, I say there is no precise guide to govern the length of stroke. Row as naturally as possible, and you will row right. The stroke that can be rowed at the top of one's speed with the least exertion is the best.

Hints to Rowers.

Rowing is an art; and when acquired—assisted by the organs of respiration and circulation, or what may be termed endurance—muscular power, instead of being the first, as many think, stands third. 1st, Art; 2d, Endurance; 3d, Strength.

When a man presents himself for aquatic honors, his first duty is to see the necessity of being earnest in the work he is about to undertake. He should never under-rate his opponent; and his best endeavors must be put forth to bring himself into the very best possible physical condition that he is capable of achieving. One month at least should be taken for this purpose. No man ought to be permitted to make one of a crew unless his heart is in the work; unless he is willing to practice and pay every requisite attention to condition. One over-confident or careless man may be the means of beating a whole crew.

Training clears the man's body of all impurities, and puts his breathing organs in that state of perfection which is attainable by art. The first thing necessary is to take an exact view of the state of the body—whether it be fleshy or otherwise; and it is also necessary to know something of the nature of the man—whether he be dull and heavy, or brisk and lively in his manner. If he appears dull, slow, and heavy, you must find out whether or not it is caused by over-work. If so, revive his spirits by giving him less work and more rest. As his strength and

spirits increase, let him exercise ; but not so that he feels weak after it. If the man be in good health when commencing the month's preparation or practice, the principal object will be to give him good substantial food, such as I have named, and as much exercise as will keep his wind good without overtaking him. About the twentieth day his strength and endurance should be tried. It is however to be observed that he is not to be pressed at the top of his speed upon the first trial. This should be done five days before the race, and with training clothes ; this will make him row with more vigor when stripped for the race. If the man feels faint just before getting into the boat, a little sherry wine with the yolk of an egg in it may be given. It will be remembered that the two extremes of fullness and fasting must be avoided ; the one damages the wind, and the other occasions faintness. After dinner, which should be two hours before rowing, the men should lie down and not be disturbed until twenty minutes before starting, when the rubbing with alcohol should be performed, to be followed as soon as possible by the race.

I have stated what should be eaten and drunk while undergoing a course of training. Of course it will be understood that nothing not named in the diet or drink should be indulged in. Ales and liquors of every description and tobacco must be avoided. I know there are many men who insist upon drinking ale when training ; but I firmly believe that if two crews were matched to row, both having the same amount of strength and skill, or all things else being equal, and put in training, the one doing the work with ale, the other as I have described, the victory would be with the temperate crew. This was illustrated in the summer of 1865 in our own waters.

Speed of Racing-Boats in England.

The best time made on the Henley Course, from years 1853 up to 1866. This course is 1 mile, 2 furlongs, 20 poles, and is beyond all doubt the fairest course for comparisons of speed, there being little current at any time, and the races always being rowed at slack water. The course from Putney to Mortlake is greatly influenced by the state of the tide, and in all races the boats invariably rowing with it.

	min.	sec.		min.	sec.
Eight oars,	7	50 $\frac{1}{2}$,	about 1 mile in	5	50
Four "	8	47 $\frac{1}{2}$,	" 1 "	6	30
Pair "	9	45,	" 1 "	7	10
Single-Sculls Boat,	10	11 $\frac{1}{2}$,	" 1 "	7	25

How to Test the Speed of a Boat.

The speed of a boat can only be truly tested by changing crews—then trying them in rough and smooth water, with, against, and across tide. Rowing a boat a certain distance, and judging of her speed by the difference in time, is certainly, in my opinion, no fair test. This opinion has been formed from over twenty-five years' practice. Take two boats, then select two crews; place them, each man in his proper position; let them row at the top of their speed, say one mile, and after fifteen minutes' rest, change boats. The distance in those trials should be not less than one-quarter of a mile, and not over one mile. Beyond the latter distance you try the endurance of the men, and not the speed of the boat. I would recommend a half mile. By this means, you will find no difficulty in selecting from any number of boats the one having the greatest speed.

By a test made in England in 1866, with an eight-oared race-boat, to ascertain the actual force or power it required to propel such a boat through the water, it was found that

a constant force of 7 pounds gives a speed of three miles per hour. Admitting this to be the fact, it will follow that a power of 63 pounds would propel the same boat at the rate of nine miles per hour. This is near the average speed of our college races. In this trial, the whole of the available force was measured, whereas, in rowing, there is only one moment, and that is when the oar is at right angles to the keel of the boat, that the full force expended by the rower is all used in directly propelling the boat. It should be impressed upon the mind of all beginners that neither the commencement nor end of the stroke produce any thing like the same effect, though both equally tax the strength of the rower.

The first outrigger boat was built by Henry Clasper, of Newcastle, England, and was rowed at the regatta at Putney, on the 20th June, 1844. It was built of mahogany by Clasper himself, assisted by his wife. The model of this boat was beautiful, and it created quite a furore on the Thames when being tried. The dimensions were: 37 feet 6 inches length, 24 inches breadth, 12 inches depth. It weighed 145 pounds. The first boat of this class in this country was built by C. J. Thoms, of New York. It was rowed at the Boston Regatta, July 4th, 1855. Its dimensions were: 35 feet length, 27 inches breadth, 10½ inches depth.

CHAPTER VI.

SAILING.

I FANCY it would be a very difficult task for any person to trace to its origin the art of sailing. The power of mind over matter might have given to some observant man the first notion of a sail. It would be impossible for a thoughtful man to stand in the rudest constructed vessel without perceiving that the wind exerted a power upon him and his boat, and therefore the thought of a sail must have been coincident with the first launching of the simplest boat. The science of building, of rigging, and of sailing, however, has grown up gradually through a succession of ages, and has now reached a perfection of which the ancients had not the slightest idea.

It is not my purpose to describe fully the different kinds of vessels, but to speak of those only that are used for pleasure, and manned principally by amateurs. To those gentlemen who have a taste for and an interest in this pleasant amusement, I wish to set forth a few simple rules, which I believe will aid them in the knowledge of sailing or handling a sail-boat or yacht with more pleasure and safety.

Sailing a Yacht.

The practical sailing of a yacht is somewhat of an art. First look to the trim of your boat; then at the set and

trim of the sails; and next, and most important, at good and close steering.

The number of hands to work the sails will depend upon the tonnage of the boat, and the number of sails. Two men can easily manage a small model yacht or sail-boat, provided the wind is not blowing too heavily—one steering, the other attending to the jib-sheet. But the general custom in regattas and match races is to have one man for every five tons; but for pleasure expeditions, you may take as many as the yacht can comfortably accommodate.

In preparing to get a schooner yacht under way, the first thing is to see that every thing is in readiness. First cast loose the gaskets from the mainsail, and hoist the same, taking great care first that the peak is well up to its place, then giving a strong pull on the throat-halliards. This sail should set as flat and as smooth as possible. Next set the foresail, and when this is properly up, trim aft the sheets; place the man or men at the jib-halliards; cast off from the moorings, run up your jib, and you are under way.

Beating to Windward.

This is sailing against or sharp on the wind. First trim your sheets well aft, and fill away, either on the starboard or port tack. A vessel is on the starboard tack when the wind is blowing on the starboard side, which is then called the weather side, and the opposite one is the lee side—and the reverse. In sailing close to the wind, great care must be taken not to sail too close, but always to keep the canvas full. A skillful boatman, or one who knows how to handle a sail-boat or yacht, will watch every variation of the wind, and meet it either by luffing or keeping off. If the vessel is sailing too near the wind, it may be known by

the sails shivering. In preparing to tack, or go-about, see that the sails all draw, and you have good way. If the boat is quick in stays, there will not be the slightest trouble; but if she is slow, you must begin in time, or perhaps you will find yourself ashore.

When every thing is ready, put the helm gradually down, and let fly the jib-sheet. If the boat hangs head to wind, haul over the main-boom to windward; flatten the fore-sheet. When she fills away, trim the sails so that they all draw alike, so that the vessel will steer with as little griping as possible.

Wearing or Jibing.

This is one of the most difficult manœuvres in sailing, but one which is often done in matches and regattas to save time and distance. If the wind is blowing heavy, great care must be taken that every thing is clear, and all persons are out of the way of the boom as it swings over. I have seen men swept overboard by the sailing-master being careless or ignorant in making this movement.

The boom is liable to be sprung or broken. To avoid these accidents, see that the main-sheet is all clear for running; put every one upon his guard by announcing what you are about to do; then keep her off, and the instant the mainsail has traversed to the other side, change your helm to the reverse, and meet her. This will prevent the broaching-to which would otherwise occur with parties sailing for pleasure. I would advise the peak to be dropped when making this movement; then there is little or no danger.

Sailing Before the Wind.

A vessel running "free," or before the wind, is often very

difficult to steer, but this can sometimes be remedied by a slight alteration in the trim of the sails. If a vessel is sailing dead before the wind, should she be schooner-rigged, the foresail and mainsail may be placed in opposite directions, or what is termed "wing-and-wing." Should it not be a boomed foresail, a spar can be used for that purpose. Some large yachts and all pilot-boats use what are called lug foresails. This admits of more canvas, and the sail, as a general thing, sets better.

Vessels Passing Each Other.

Care must always be taken to observe the rules of sailing when meeting with another vessel. Whichever boat is running "free," or with sheets started, must make or give way for the one "close-hauled;" for a boat close-hauled on the wind can not conveniently alter her course. But when running free, there is very little trouble to sheer either to the right or left. This is now the general rule; and it is founded in justice and convenience to all.

Look Out for Squalls.

If there is any indication of a squall—which may be known by the heavy dark clouds, and seen upon the water by an experienced eye from the ripple it makes and its black appearance—keep the boat roped full, so that when the squall strikes her, you will have way enough to luff up and shake it out of her. Should it prove too heavy, if this will not do, and she is unable to stand it, let fly the jib and fore-sheets. If you think the wind will continue, reef the mainsail, but look out that you have sufficient room for leeway. While closing the first set taut the topping-lift, lower the peak and throat, hook the reef-tackle to the earing; tie the reef-points either for the first, second, or

third reef, as necessity may require; after which clap on the halliards, hoist away, and the mainsail is again set. Now give her a little of the jib, or all if she can stand it, and away you go. I would advise gentlemen who are owners of yachts never to undertake the management of them without at least one competent and experienced man on board. From such a person he will learn more by practical demonstration than any description that can possibly be given upon paper. All that ever can be given in such cases is the theory; the more complicated details must be obtained from experienced boatmen.

Managing a Boat by Sails alone, without Rudder.

This requires some practice, which will give confidence. It is well for gentlemen sailing for pleasure to know how to perform and handle a boat under all and every circumstance. It often happens that the rudder gets out of order, especially where the river is narrow and the water shoal. In such a case, what are you to do unless you can work your boat? There is no alternative but to anchor or go upon the shore. Now these can be avoided if you have a little knowledge of how to manage the boat without the rudder.

In 1848 there was quite a discussion upon this question among amateur yachtsmen and others; and in order to demonstrate the thing beyond all doubt, the managers of the American Institute, holding their fair in that year at the Castle Garden in New York, gave a regatta open or free for all boats to enter with one sail, and to be managed or worked without rudder, oar, or any thing except the sail and movement of the body. For the prizes offered, seven boats started. The course was from Castle Garden around Ellis or Gibbet Island, and return. Here the cur-

rent runs from one and a half to three knots an hour ; but notwithstanding this, the boats made the distance in good time, and were handled to the satisfaction of all present.

A boat with only one sail can be managed by one person. A jib and mainsail boat should have at least two persons, each one holding the sheet of the sail to which he is assigned. If you are on the wind, keep the jib wrapt full, and the luff of the main-sail just slightly shivering. By watching closely, and holding the jib and main-sheet in your hand to haul in or slack off, as occasion requires, you may sail for hours with the greatest pleasure. When you want to come about, or tack, let go the jib-sheet, and at the same time flatten down the main-sheet. If the boat hangs in the eyes of the wind, shove hard the main-boom to windward.

Sailing before the wind, without a rudder or any thing to guide the boat except the sails, is no easy task. This is managed by dropping the peak of the mainsail, keeping the jib-sheet well aft to prevent her from broaching-to. I advise all who are fond of sailing to practice this. It is not necessary that they should unship the rudder, but just fasten it amidships, and then work the boat.

Cautions.

(1.) Coil up all ropes, and have a place for every thing and every thing in its place.

(2.) Be careful when jibing or tacking that the boom does not knock you overboard.

(3.) Never leave any thing in the gangway, and keep the decks clear.

(4.) Keep a good lookout ahead, and also look out for squalls, which may generally be observed to windward by the appearance of dark heavy clouds.

(5.) Stand clear of ropes and blocks flying about, when you are tacking and the sails are shaking.

(6.) Always promptly obey the orders of the sailing-master.

(7.) When the boat is on the wind, sit on the weather side, and try if possible to keep the boat on her bottom. All boats, if the lines are true, will sail faster on their bottom than on their bilge or side.

(8.) Keep all the standing rigging in good order and taut.

(9.) Should the boat capsize, crawl to the windward, and be careful to keep clear and not get entangled in the rigging.

A gentleman who is about to engage in yachting, should always have his eyes open to what is going on, and be ever ready to lend assistance with the greatest promptitude. Quickness and agility are the first characteristics of a good yachtsman. The casting-off or "belaying" a rope quickly is often attended with the most important consequences, in which the losing or saving of life may be concerned. We therefore advise all who are ambitious of becoming proficient yachtsmen to be quick in their evolutions, and steady in all their actions.

Nautical Terms.

Avast.—An order to stop.

Aback.—The situation of the sails when the wind presses their surface against the mast.

Amidships.—The middle of the vessel.

Abaft.—Toward the stern.

Abreast.—Alongside of, or opposite to.

Athwart, or Thwart Hawse.—Across.

Bearings.—The widest part of the vessel below the water line; the direction of any object according to the points of the compass.

Belay.—Make fast.

Bend on.—To make a sail fast to the yard, or bend, or a rope.

Cleat.—Pieces of wood or iron on which ropes are belayed.

Cat-head.—Large piece of wood over the bow, having sheaves within it, by which the anchor is hoisted or lowered.

Combings.—Raised wood-work around the hatchways, to prevent the water going down the hold.

Davis.—Pieces of wood or rods of iron, with sheaves or blocks at the ends, projecting over a vessel's side or stern to hoist boats up to.

Draught.—The depth of water which a vessel requires to float her.

Fathom.—Six feet.

Flat.—The jib, jib-boom, fore or main-sheet is said to be "hauled flat" when it is hauled down close.

Fore and Aft.—Lengthwise the vessel.

Foul Anchor.—When the cable has a turn around the fluke.

Gaskets.—Pieces of rope or strips of canvas used to fasten the sail to the yard when it is furled.

Jury-mast.—A temporary mast rigged in the place of a lost one.

Log.—A journal of the proceedings of a vessel; also a line with a triangular piece of wood called the "log," which is cast overboard to ascertain the ship's rate of sailing.

Scud.—To sweep along before the gale with no sail, or only enough to keep the boat from broaching-to; also low, thin clouds flying swiftly before the wind.

CHAPTER VII.

RECORD OF ROWING MATCHES AND REGATTAS.

I GIVE in this chapter a carefully prepared record of all the notable rowing matches and regattas which have come off in the United States; noting the names of the contestants, the description of the match, and the time of the winners.

Dec. 9, 1824.—FOUR OARS.—The *American Star*, built by Chambers, and rowed by the Whitehall Watermen, gained a victory over the *Dart*, a British boat belonging to the English frigate *Huron*, Capt. Harris. The *Dart* had rowed eight races, never having been beaten. The challenge came from the officers of the frigate, and was accepted by Major Howard, on the part of the Whitehall boys, to row a five mile race for one thousand dollars a side. The day was pleasant, but the air was keen and cold. At 12.40 the signal was given for the start, and the booming of a cannon from the British frigate gave the fifty thousand people present notice that the boats were off, and the struggle had commenced. At the start the *Star* took the lead; the *Dart* shortly came up and lapped her; on which the Whitehall boys applied a little more power to their oars, forced their boat ahead, and maintained the advantage the whole distance, coming to the stake-boat between three and four hundred yards in advance of her competitor. Both stake-boats had the American and British flags flying, and when the *Star* came in, the crew of the British launch gave her three hearty cheers, and struck their flag. The distance was rowed in twenty-two minutes. The boats started from the vicinity of the frigate, which lay in the stream a short distance from the Battery, and rowed around a boat stationed off the old North Battery. It is reported that not less than fifty thousand people assembled to witness the race. The judges upon this occasion were, for the *American Star*, Major Howard, Capt. Henry Robinson, and

Richard Sadlier; on the part of the British boat, Mr. Henry Barclay and two lieutenants of the Hussars. A dinner was subsequently given by prominent citizens of New York to Capt. Harris and his officers; and during their stay they were *fêted* in every possible manner. The Whitehall boatmen made every effort to purchase the boat *American Star*, that they might present her to Capt. Harris, but her owner, Mr. Chambers, refused to part with her on any terms. Failing in their object, they, through James H. Aymor, Esq., informed Capt. Harris of their regrets, to which he responded in suitable terms. The frigate put to sea on the 15th December, 1824.

July 21, 1835.—SIX OARS.—Match—*Wave* against the *Eagle*, both boats having picked crews of professional oarsmen from Whitehall. The *Wave* won with great ease, the winning crew being the lightest, but having the most science.

Sept. 19, 1835.—SIX OARS.—The first regatta of the New York Amateur Boat Club Association took place from Castle Garden, Commodore Ridgely, John A. Stevens, and others acting as judges. The race was won by the *Wave*, six oars. No time taken.

Sept. 19, 1836.—SIX OARS.—The second celebration or annual regatta took place, starting from the same place, the *Wave* being again victorious. In this race nine six-oared boats started.

July 18, 1837.—TWO OARS.—Match—*Pioneer*, of Whitehall, and *Forget-me-not*. Won by the former. The race was five miles, and took place from Castle Garden. No time taken.

July 19, 1837.—TWO OARS.—Match—*Glide* against *Lady Washington*, the former winning. Rowed by William and Henry Roberts.

Aug. 4, 1837.—FOUR OARS.—*Brooklyn* against *Red Rover*. Won by the former.

Aug. 13, 1837.—Regatta at Poughkeepsie. *Erie*, *Gondola*, *Sylph*, of New York; *Robt. Bache*, Brooklyn; *Washington*, Poughkeepsie; *Bachelor*, Fishkill Landing. Won by the *Washington*.

Same Day.—FOUR OARS.—*Brooklyn*, *Elm*, Whitehall; *America*. Won by the *Brooklyn*. The betting before the start was three to one on the *America*. At the conclusion of this race the ladies invited the victors to a banquet, when they presented each one with a wreath of laurel, in which roses and flowers were entwined.

Sept. 25, 1837.—SIX OARS.—Third regatta of the New York Amateur Boat Club Association. Won by the *Wave*. It was estimated that at least ten thousand people witnessed this race.

Sept. 26, 1837.—SIX OARS.—Match—*Disowned* against *Geo. Washington*, of Poughkeepsie, for \$2,000. Won by the former. Seven miles; 40 minutes, 3 seconds.

June 1, 1838.—SIX OARS.—Match—*Wizzard-Skiff* against *Kosciusko*; five miles. Won by the former in 28 minutes, 40 seconds.

June 11, 1838.—FOUR OARS.—Match—*Whitehall* against *Passaic*. Won by the former.

June 29, 1838.—Appeared a challenge in the *St. John's Chronicle*, from a crew at that place to the Whitehallers, to come there and row them for \$1,000.

July 11, 1838.—SIX OARS.—Regatta: *Clod-hopper*, *Edwin Forrest*, *Osceola*. Won by the first.

Sept. 10, 1838.—FOUR OARS.—Match for \$2,000—*B. Shamburgh* against *Independence*; from Robins's Reef to Castle Garden. Won by the former. Time, 26 minutes.

June 2, 1839.—FOUR OARS.—Match for \$2,000—*B. Shamburgh* against *Shakespeare*; from Robins's Reef to Castle Garden. Won by the latter. Time, 31 minutes, 48 seconds. There was perhaps more excitement about this race than any that had ever taken place in this country, and the result was looked upon with surprise and suspicion. The same crew in the same boat had rowed the distance against the *Independence* in 26 minutes, and now she was beaten in 31 minutes, 48 seconds.

June 10, 1839.—SIX OARS.—Regatta at Newburg—*Wave*, *Gazelle*, and *Ariel*, of New York, amateur oarsmen; *Edwin Forrest*, *Danl. D. Tompkins*, and *Spark*, of New York, professional oarsmen; *Corsair*, *Galatea*, and *Scylla*, Newburg Clubs; *Washington*, Poughkeepsie; *Lafitte*, Cold Spring. The *Corsair* won the race; but as she was rowed by a picked crew, composed of the Ludlows and others, which was against the rules, she was ruled out of the race, and judged not to be entitled to any prize. *Duane* won the four-oared race at the same regatta.

July 18, 1839.—SIX OARS.—Seven thousand people witnessed a regatta on the Sehuykill. *Vigilant* won the race.

Aug. 1, 1839.—FOUR OARS.—Match—*Duane* against *S. S. Willis*; six miles; 45 minutes, 20 seconds. Won by the former.

Oct. 1, 1839.—SIX OARS.—Match—*Ann*, of Peekskill, against *Wave*, of New York. Won by the former. The glory and pride of the amateur oarsmen of the city of New York this day departed. Over fifteen thousand people witnessed the race, and many of the ladies were seen to depart with tears in their eyes. It was the first defeat the *Wave* had

ever met. But the great mass of the people thought very highly of the Highland crew; the ladies in particular: and why should they not? for next to brains, beautiful women always admire muscle, sinew, and endurance.

Upon the same evening another match was made between the two boats, each party reserving the right to place whom they pleased at the oars. The crew of the *Wave* being under the impression that amateur oarsmen could not contend successfully against professionals, permitted the Whitehallers to take their boat (which they had done once before in the match with the *Eagle*), and row to see what they could do with those hardy Highlanders. The match was for one thousand dollars a side, to be rowed from Castle Garden around Bedlow's Island, and return. New York was redeemed, the *Wave* winning handsomely after a well contested race.

Oct. 3, 1840.—SINGLE SCULLS.—*Yankee Doodle*, of New York, against *Isaac Martling*, of Peekskill; from Robins's Reef to Castle Garden. Won by the former.

July 14, 1841.—SIX OARS.—Regatta at Newburg. *Eagle* and *Spark*, of New York; *New Jersey*, of New Jersey; *Galatea* and *Scylla*, of Newburg; *Washington*, of Poughkeepsie; *Ann*, of Peekskill; *Duchess*, of Hyde Park. *Duchess* won; *Spark* second. This race was rowed in heats, the rules being that only the first two boats could contend in the second; *Duchess* winning also the second heat and first prize.

Same Day.—FOUR OARS.—Nine boats started for the four-oared race. These were the *Thomas Jefferson*, *J. C. Stevens*, *Tempest*, *Duane*, and *Atlantic*, of New York; the *Gondola* and *Ione*, of Newburg; the *Ann*, of Peekskill; the *Virago*, of New Paltz. The *Jefferson* won the first prize; the *Duane* the second.

Aug. 31, 1842.—SIX OARS.—Regatta at Newburg. In the six-oared race the *New Jersey*, of New Jersey, won. Time, 20 minutes, 35 seconds; distance said to be three miles.

Same Day.—FOUR OARS.—The *Washington*, of New York, won. Time, 23 minutes, 19 seconds.

Same Day.—TWO PAIR SCULLS.—The *Crolius*, of New York, won. Time, 28 minutes, 42 seconds.

Oct. 18, 1842.—FOUR OARS.—*Geo. Washington* against *Geo. W. Chapman*. From Castle Garden around Bedlow's Island. Won by the *Chapman*. Time said to be 27 minutes.

Sept. 29, 1843.—SINGLE SCULLS.—Match—S. Roberts against S. Dor-

lon. Won by Roberts. Time, 37 minutes. Distance supposed to be five miles. These gentlemen rowed three races, Dorlon winning the first, and Roberts the two last.

Sept. 22, 1845.—FOUR OARS.—Regatta from Elysian Fields, Hoboken. *Thomas Jefferson* won.

Same Day.—TWO PAIR OF SCULLS.—*Battery Pet* won, beating four others.

Oct. 17, 1846.—FOUR OARS.—Regatta from Castle Garden. *Gen. Taylor* won. Time, 31 minutes, 30 seconds.

July 20, 1847.—SINGLE SCULLS.—The great match between R. S. Martin, of Whitehall, and Charles Thomas, of Pier 1, North River. Won by the latter. The race was from Castle Garden around Robins's Reef. Light, and return. The race was started by the judges in one of the most terrific thunder-storms ever known in the harbor of New York; the consequence was that Martin's boat swamped, and he was obliged to drift alongside of a vessel. Thomas's boat, by good management, weathered the storm, went over the course, and won the race.

Sept. 13, 1847.—SINGLE SCULLS.—Match between S. Roberts and R. S. Martin; ten miles. Won by Roberts. Time, 1 hour, 20 minutes. From Jersey City around Robins's Reef, and return.

Aug. 12, 1850.—FOUR OARS.—From the Elysian Fields, Hoboken. *Washington* against *Thomas Jefferson*. Won by the latter. Time, 27 minutes. Said to be five miles. The *Jefferson* at this time was called by the club that owned her the "Pride of the Hudson."

Oct. 5, 1850.—SINGLE SCULLS.—From Castle Garden, around Ellis Island. James Lee against Charles Thomas. Won by Lee. Time not taken.

July 4, 1855.—FOUR OARS.—Boston Regatta; four-oared race. Won by the New York boat, *J. D. R. Putman*.

July 5, 1855.—On Charles River, Boston.—The first match between the New York and St. John's crews. The boats were the *J. D. R. Putman* of New York, and *Neptune* of St. John's. The match was won by the latter. The *Putman* carried a cockswain weighing 135 pounds, the St. John men rowing without cockswain or rudder.

Oct. 17, 1855.—FOUR OARS.—First regatta of the Empire City Regatta Club. Won by the *Lady Putman*. Time, 36 minutes $\frac{1}{4}$ second. Distance, five miles. *Single Sculls Champion Race, in working boats*, won by Thomas Burns. Time, 42 minutes, 15 seconds.

June 23, 1856.—FOUR OARS.—Regatta of the Empire City Regatta

Club. Five miles. Won by the *Wm. H. Tarboss*. Time, 34 minutes, 34 seconds.

Oct. 29, 1857.—FOUR OARS.—Match on Harlem River, New York. *Robert H. Allair* against *Experiment*. This was the closest race ever rowed in America; the judges being unable to agree as to which boat was the winner, both parties consented to a draw.

July 15, 1858.—SINGLE SCULLS.—Match—Lynch against Daw. From Fort Washington, North River. Won by Daw.

Sept. 17, 1858.—FOUR OARS.—Empire City Regatta, Harlem River. Won by George J. Brown. Time, 34 minutes, 42 seconds.

July 26, 1859.—SIX OARS.—College Regatta, Worcester, Mass. Harvard the victor, over Yale and Brown. Three miles in 19 minutes, 18 seconds.

July 27, 1859.—SIX OARS.—Worcester City Regatta, the Yale and Harvard boats only starting. Won by Yale. Three miles in 19 minutes, 14 seconds.

Sept. 8, 1859.—FOUR OARS.—Albany Regatta; three miles. Won by the *Stranger* of Poughkeepsie. Time, 20 minutes, 11 seconds.

Sept. 12, 1859.—FOUR OARS.—Match on Harlem River; five miles. *Dan. Bryant* against *George J. Brown*. *Bryant* wins. Time, 34 minutes, 40 seconds. In consequence of a complaint of fouling being made to the judges by the crew of the *Brown*, the money was drawn.

Oct. 24, 1859.—SINGLE SCULLS.—At Boston Regatta. Won by Joshua Ward. Three miles. Time, 23 minutes, 16 seconds.

July 4, 1860.—FOUR OARS.—New York Regatta at Castle Garden. Won by *Unexpected*. SINGLE SCULLS.—Same day and place. Joshua Ward won the first prize for single sculls.

July 19, 1860.—FOUR OARS.—Staten Island Regatta. Won by the Poughkeepsie boat, *Stranger*.

July 24, 1860.—SIX OARS.—College Regatta, Worcester, Mass. Harvard against Yale. Harvard the victor. Three miles in 18 minutes, 53 seconds.

July 24, 1860.—SIX OARS.—Worcester City Regatta. Won by the *Gersh Banker*. Three miles. Time, 18 minutes, 37 seconds. The writer is authorized by the Regatta Committee of Worcester, to state that the distance was not fully three miles, from the fact that in the winter of '64 the course was correctly measured upon the ice, and the stake for the years '64-5 was considerably above that of 1860.

Sept. 5, 1860.—SIX OARS.—At Poughkeepsie. *James McKay* against

Gersh Banker. Won by the *McKay*. Five miles. Time, 32 minutes, 40 seconds.

Champion Belt Race, at Staten Island; single sculls, five miles. Won by Ward. Time, 35 minutes, 10 seconds. It must have been a short five miles.

Sept. 10, 1860.—*Empire City Regatta*. *Gulick* won the six-oar prize; time, 37 minutes, 7 seconds. *George J. Brown* won the four-oar prize. The *Champion Sculls'* prize was won by P. Lynch; time, 40 minutes, 12 seconds.

Nov. 22, 1860.—*SINGLE SCULLS*.—Match from Jersey City. Andrew Fay against William H. Decker. Won by Fay. Time, 25 minutes, 30 seconds.

July 4, 1861.—*FOUR OARS*.—At the Boston Regatta. *Stranger* won. Three miles; 20 minutes, 7 seconds.

Sept. 16, 1861.—*FOUR OARS*.—*Empire City Regatta*. *George J. Brown* won. Five miles. Time, 36 minutes, 38 seconds.

July 4, 1862.—*FOUR OARS*.—At Boston Regatta. *George J. Brown* won. Three miles; 21 minutes, $1\frac{3}{4}$ seconds.

July 4, 1862.—*SINGLE SCULLS*.—Boston Regatta. James Hamill won. Two miles in 16 minutes, $15\frac{3}{4}$ seconds.

Aug. 13, 1862.—Match at Philadelphia for the championship of the United States, between James Hamill of Pittsburg, and Joshua Ward of New York. They were matched to row two races, the first to be three miles, which was won by Hamill in 22 minutes, 27 seconds; the second (Aug. 14), five miles, which was also won by Hamill in 37 minutes, 39 seconds.

June 20, 1863.—*FOUR OARS*.—At Boston. *George J. Brown* of New York won. Three miles in 19 minutes, 50 seconds.

Same Day.—*TWO PAIR OF SCULLS*.—Hamill and D. Leary won the first prize. Two miles in 15 minutes, 33 seconds.

Same Day.—*SINGLE SCULLS*.—Hamill won the first prize. Two miles; 18 minutes, 5 seconds.

July 4, 1863.—*SIX OARS*.—Boston Regatta. *P. L. Tucker* won the first prize. Three miles; 20 minutes, 8 seconds.

Same Day.—*FOUR OARS*.—*George B. McClellan* won the first prize. Three miles; 20 minutes, $29\frac{1}{2}$ seconds.

July 4, 1863.—*TWO PAIR OF SCULLS*.—At Boston. James Hamill and D. Leary won first prize. The match was for two miles. Time, 15 minutes, 5 seconds.

July 4, 1863.—SINGLE SCULLS.—At Boston. James Hamill won. Two miles, in 16 minutes, 40 seconds.

July 23, 1863.—SINGLE SCULLS.—At Poughkeepsie. James Hamill against Joshua Ward. Won by Ward. Five miles; 42 minutes, 29 seconds.

Sept. 28, 1863.—SINGLE SCULLS.—At Poughkeepsie. James Hamill against Joshua Ward. Five miles. Won by Hamill; 38 minutes, 15 seconds.

July 4, 1864.—SIX OARS.—Boston Regatta. *P. L. Tucker*, of New York, the victor. Three miles; 22 minutes, 4 seconds.

July 19, 1864.—SINGLE SCULLS.—At Pittsburg. James Hamill against Joshua Ward. Five miles. Won by Hamill. Time, 40 minutes, 46 seconds.

July 29, 1864.—College Regatta, Worcester, Mass. Yale against Harvard. Three miles. Won by Yale. Time, 19 minutes.

Aug. 17, 1864.—FOUR OARS.—At Poughkeepsie; match. *George J. Brown* of New York, against *Twilight* of Pittsburg. Five miles. Won by the *Brown*. Time, 33 minutes, 30 seconds.

Aug. 18, 1864.—FOUR OARS.—At Poughkeepsie. Match between *Stranger* and *Twilight*. *Stranger* won. Five miles; 35 minutes, 30 seconds.

Sept. 20, 1864.—SINGLE SCULLS.—At Poughkeepsie. Joshua Ward against William Stevens. Ward won. Five miles; 38 minutes, 13 seconds.

July 4, 1865.—SINGLE SCULLS.—Boston Regatta. Hamill the winner. Two miles, in 16 minutes, $28\frac{1}{2}$ seconds.

July 4, 1865.—FOUR OARS.—Boston Regatta. Won by the *Samuel Collyer* of New York. Six miles; 43 minutes, 32 seconds.

July 18, 1865.—FOUR OARS.—Match—*Samuel Collyer* of New York, against *Floyd T. Fields* of Poughkeepsie. Won by the former. Time, 37 minutes, 10 seconds.

July 28, 1865.—College Regatta, Worcester, Mass. Yale against Harvard. Three miles. Won by Yale. Time, 17 minutes, $42\frac{1}{2}$ seconds. There is great doubt as to whether this time was actually made. But the time-keeper—a gentleman selected for his experience in sporting matters, and who paid the strictest attention to timing this race—announced at its termination to the reporters and all present as above.

July 29, 1865.—SINGLE SCULLS.—At Worcester, Mass. Won by Joshua Ward. Two miles, in 15 minutes, 15 seconds.

Sept. 25, 1865.—FOUR OARS.—At Sing Sing. Match between *Robert Earl* and *New York*. Five miles. Won by the former. Time, 33 minutes, 5 seconds.

Sept. 30, 1865. — FOUR OARS.—At Pittsburg, Penn. *New York* against *Friendship*. The latter the winner. Five miles in 32 minutes, 26 seconds. This is the best time on record.

CHAPTER VIII.

RULES FOR REGATTAS.

THE following rules and regulations are offered as a guide for Regattas and Matches in Boating in the United States. I am not aware that there are any established rules to govern this healthy pastime in this country. I deem it just as essential that some law should be recognized by those who take an interest in this amusement, as well as by others who love the horse or the yacht. Some there are who delight in witnessing a boat race, and others fancy the speed of a horse; but, after all, are they not both ruled and guided by the same power? Upon the turf the rules are so plain, yet so emphatic, that there is little room for dispute after a race. But heretofore this has not been the case in boating, and the principal cause I believe is in not having rules that would, to a certain extent, govern all interested. My object will be to make them applicable to all kinds of aquatic sports, and to bear alike upon all those who take part in them.

I have been induced to offer these from seeing the great progress in aquatic sports of all kinds. In our harbors, bays, and rivers, it has been so increased within the last few years that it is really encouraging to the friends of reform. Where we formerly had one yacht or boat-club in New York, we have now a dozen, and the people in all parts of the States seem to be following the metropolitan example. This should be entered into by the young, and en-

couraged by the old. There is no one exercise more manly, and more likely to promote the physical and mental health, than rowing; and when to this exercise is added the excitement of a regatta or match, we have the highest order of sport. If the boating era should continue ten years, the next generation will relieve Americans from the odium of the charge of physical decline which has been charged against us by European writers, and with much more truth than many of us care to admit. It only needs a little outdoor exercise in summer, such as boating, base ball, and cricket, and in winter, gymnastics, to bring up the physical stamina of young America. The stock is good; the trouble is in the rearing, training, and feeding.

Entries.

RULE 1.—All entries for any regatta should be made by a member of the crew or club that is about to take part, and should be done at least three days previous to the day of race. Every such entry shall give name and length of boat, the full name of each oarsman, and also describe the color of dress to be worn in the race. If the name of the boat be changed, the fact should be stated to one of the managers of the regatta or committee.

Change in any one of the Crew.

RULE 2.—Should, upon the day of race, a change be made in any one or more of the crews, it will be for the judges to say whether such boat or boats shall contend for the prize; and in case they are unable to agree, the matter should be referred to the referee, if one has been selected, whose decision shall be final. Whatever the decision may be, it shall be the duty of the judges to announce it, so that all about contending may understand.

Stipulation as to Length of Boat.

RULE 3.—If there is any stipulated length named for boats, it shall be the duty of the judges to see, before the race is started, that no boat entered and about to start exceeds the number of feet and inches thus named. If any accident should happen to boat or oarsman when pre-

paring or getting in line to start, the judges may grant time not exceeding twenty minutes, to repair, if possible, any such damage ; but they are to be the sole judges of whether such accident was unavoidable, or was caused from carelessness, for the purpose of delaying the race.

Starting.

RULE 4.—The boats shall be started in a regatta by one of the judges, to be appointed for that express purpose. He should be a man with some experience in such matters. In all match races the referee should start the boats. He is the man selected and accepted by both sides for his knowledge of boating and his impartiality to all concerned. The start in all races should be made by the report of a pistol, or what I consider much better, if it can be obtained, a drum. From this a false start will seldom if ever occur.

False Starts.

RULE 5.—When a false start is made, caused by the failure of the pistol to make a report, or any of the crews attempt to start before the pistol is fired or the drum tapped, it shall be the duty of the starter to order all to take their positions again in line, and so remain until the proper signal for the start is given. Any infringement of this rule shall deprive the crew or crews violating it of any prize or honor in the race.

Positions in Line of Starting.

RULE 6.—The boat winning the choice of position shall take that which the crew may think advantageous ; number two the second best position ; number three next, and so on. . The boat drawing number one, or the first choice in starting, constitutes her to the inside position in rounding the stake or stake-boat, provided she gets there level and in her proper place with the others. It will be the duty of the judges at this point to watch closely the action of each crew upon making the turn, and report the same to the judges and referee, if one has been chosen.

Foul Rowing.

RULE 7.—If a boat shall cross or touch another, accidentally or not, it shall be declared foul ; unless in crossing there is an open length of clear water, which will be considered sufficient distance as not to impede the speed of the boat being crossed. Although a leading boat is entitled to any part of the water the cockswain or crew may be pleased to take, still if they cross first from one side and then to the other when a boat is

so near that in changing their position they compel the boat behind to ease or slacken their stroke, or if they cause the cockswain or crew to steer or pull out of their course, it shall be declared foul rowing; and the parties so offending shall not be entitled to the purse or prize. All complaints of foul rowing or fouling must be made before the judges leave the stake-boat or starting-point, and by the man or men so fouled, unless prevented by accident. The umpire shall be the sole judge of a boat's straight or true course from the starting to the coming in of the boats.

Boats Named in Articles of Agreement.

RULE 8.—In all match races where the man or men are confined to any one named boat, and that name is fully inserted in the articles of agreement, by which both parties have pledged themselves to be bound, and if on the day of race there was a doubt about the boat or boats being the same as named in the articles, then, unless with and by the consent of the opposing crews, the judges may, if not satisfied in their own minds in regard to the matter, call in the assistance of persons in whose knowledge and honesty they have confidence, to aid them in deciding the question. And if a clear case is made out that it is not the boat so named in the articles, the judges will allow such crew twenty minutes to produce the boat, at the expiration of which time, should they fail, the boat complying and strictly adhering to the very letter in the articles of agreement, shall be started for the main stake or purse; and, after completing the full distance, shall be declared the winner of the race and money. But this shall not deprive parties from making what may be called "post match." This is to insert the full terms of the race in the articles of agreement, omitting only, or without declaring, the name or any thing in regard to the boat; the boat not to be known or named until the day of race.

Collusion.

RULE 9.—No agreement or compromise between two or more persons or crews not to oppose each other, or to row jointly against any other one boat or crew, will be permitted. Upon satisfactory proof of the same being produced before the judges, they shall declare the party or parties so offending out of the race, and not entitled to any prize or award whatever.

Frauds.

RULE 10.—Every crew entering and starting in a regatta or match,

shall row a *bona fide* race. If any fraud be discovered before the decision is given, the boat so offending shall be ruled out of the race, and the prize or prizes awarded to the one or ones who have won upon the merits.

Outside Boats.

RULE 11.—In all match races no steamboat, sailing vessel, or rowing boat of any description will be permitted to accompany the boats in the match nearer or closer than two hundred yards; nor should the oarsmen use any improper language to each other, or to the judges, or be guilty of any conduct unbecoming gentlemen.

Good Day, and Smooth Course.

RULE 12.—When a match or regatta is made with the understanding that the water shall be smooth at the hour appointed to start, it is not enough that it is smooth to the satisfaction of one party or crew, but it must be so for both, or all that are about to take part. The judges are the proper persons to decide upon this question. Should they declare the race postponed for that day in consequence of the water being too rough, rain or fog, or any other cause, they must also declare all outside bets off.

Duties of Judges.

RULE 13.—In all matters relating to the race or rowing in any particular match or regatta not provided for in these rules, the judges for such race or regatta will decide and direct according to the best of their judgment, and the usages of boat-racing in the United States.

Time-Keeper.

RULE 14.—In every match or regatta the judges must appoint, at least thirty minutes before the time of starting the boats, a gentleman to act as time-keeper. He must be provided with a watch suitable in all respects to mark the time correctly. At the starting of the boats, the referee, two judges, and time-keeper should be close together; the latter closely watching and starting his watch upon the instant of the report of the pistol or when the start takes place. It shall be the duty of the time-keeper to show both judges that the watch was started at the proper moment, and, in his judgment, was running correctly. Upon the return of the boats, the judges should call the attention of the time-keeper, and request that the instant the referee calls time, which would be when the leading boat crossed the score, the watch should be stopped, and remain

so stopped until the referee, judges, and reporters recorded the same. The second boat can very readily be timed by the second hand of the time-keeper's watch. At most the variation should not exceed two seconds, one way or the other. It is the time of the winning boat that is recorded, and therefore the necessity of having the time kept and reported correctly.

Dead Heat.

RULE 15.—When boats come in so even that it can not be decided that either was upon the lead, it shall be declared a "dead heat," and one hour be allowed to those boats making the dead heat to row over again for the prize or prizes. None others shall start, they having been already beaten. Should either crew refuse to comply with the direction of the judges (providing there is sufficient day-light for the race to be rowed), then it shall be the duty of the judges to start the crew or crews that are prepared; and upon their rowing the full distance, award the prizes accordingly.

Umpire.

RULE 16.—The decision of the umpire shall in all cases be final, and any competitor refusing to abide thereby, shall be distanced.

Rules for Betting.

Rule 1.—Bets on the field are off, unless all the boats entered and advertised to row, start in the race.

Rule 2.—Where a dead heat is made, the bets stand upon the boats making it, but all others are beaten boats. Should the boats making the dead heat not row and decide it upon the same day, then all bets are off.

Rule 3.—When a race is postponed from one day to another in consequence of rain, fog, wind, rough weather, or any other cause, all by-bets, except they are made play or pay, shall be off.

Rule 4.—A "field" shall comprise all the boats entered except the one that may be named against the remainder. The bettor can choose one particular boat, or take the field against any one boat; but the withdrawal of such boat will nullify the bet.

Rule 5.—When a bet is made on a boat, "play or pay," the boat must start, or the party betting on the same loses his bet.

Rule 6.—Where the bettor undertakes to place the boats in a race, he must give each a specific place, as 1st, 2d, 3d, and so on; the bet or bets to be decided by the official decision or record of the judges.

Duties of Referee and Judges.

In all rowing or sailing contests, the gentleman appointed to this office should be one who in every respect is familiar with boating—not its theory only, but something of the practical part. Then with such a one, if he performed his duty faithfully and the opportunity is given him, every movement of the contending parties would be observed and noted. Should one or more of the boats attempt to prevent another from passing by crossing and recrossing, and by so doing impede the speed or compel another to go out of her course, he would be competent to judge whether such a variation from the true course was caused by a cross-current or eddy. There is no excuse for a boat rowing or sailing in slack water or in a true current to make or take these rank sheers. If it is done in such water, then it is done intentionally and to gain an advantage or prevent an opponent or opponents from passing, or by sheer carelessness, for either of which they are responsible and must abide the consequences.

But should this sheer or deviation from the proper course be caused by the boat striking out of a true current into an eddy, or out of slack water into a strong current or tide, then it will be for the referee to say what degree of care was required to guard against such a deviation; and if he should be satisfied that it was done by the action of the water, and not by any willful intent, he should give such party the benefit of it.

Of course it will be understood that this does not apply to any race where the judges agree; it is only where the judges disagree and refer the whole matter to the referee, the one chosen by both parties for his knowledge, for his impartiality, and for his decision of character. These

should be the qualifications of the man acting in this capacity. In all important races I think the boats should never be out of sight of the judges and referee. Upon the trotting and running course the horses are never out of sight of the judges, and frequently when the races are continued until dark, the judges or those appointed to act as such, take their place at different parts of the course, that they may be able to observe the action of the drivers or riders, and should there be any foul driving or riding, they are the witnesses of the same, and of course competent to decide which party is at fault. Now this is as it should be, and I think I but speak the sentiments of every well-wisher of this manly sport, in saying that hereafter the same precaution should be taken at rowing and sailing regattas and matches. How is it possible for the judges or referee to decide understandingly when there is a dispute, not having the facilities for witnessing the race the whole distance?

It has been the general custom in this country for the judges and referee to be placed in a stake-boat at the starting-point. They of course witness the start and the coming in, but what transpired during three-fourths of the race, they are from their own knowledge perfectly ignorant of. I might name several races that took place years ago, when the course was from Robins's Reef to Castle Garden, where the contending boats were never seen by the judges or referee until within a few hundred yards of the coming in. In those days steamboats and propellers were not so numerous as they are at present. Now, at every race on river or lake, with perhaps one or two exceptions, one can see from two to twenty steamboats of different descriptions. Now if one of these could be in readiness a short distance from the starting-point, and after the boats were

started, could follow with the judges and referee at a respectful distance, say from a quarter to one-half a mile, they would then be enabled to witness the race from the start to the finish, and note the movement of each and every boat. An object at the distance of half a mile upon the water, if the day is clear, is easily perceived. It would be only necessary that the propeller or steamboat should go so far that the turn could be seen, then back to the starting-point, keeping well to the right or left, and out of the course of the boats.

The judges and referee should be in the stake-boat or at the starting-point at the coming in of the boats. If this course was pursued, boat-racing would be decided upon the merits of the men and boat, and nothing else. What are the judges and referee appointed for except it be to see that there is a fair, honorable race rowed or sailed, and to award the prize or purses to those who have adhered to the rules and won upon the merits?

With outside questions the referee has nothing to do. He is selected by the judges of both parties, and should they fail to agree, the matter is referred to him to decide. Now what difficulty can there possibly be for him in rendering a just decision, provided he has witnessed the whole race from the commencement to the conclusion? I apprehend not any. But when he is placed in such a position, that part of the time the boats were out of his sight, then in case of dispute and disagreement between the judges, evidence must be taken which invariably leads to trouble. Gentlemen, avoid this by providing the judges and referee with the means of seeing the race and coming to a just conclusion.

In all match races a judge should be selected to represent each man or crew, and those two judges mutually

agree as to the appointment of a referee (which should in every case be done previous to the day fixed or named for the race). It is highly necessary that the above-named functionaries should each possess a thorough knowledge of the system and laws of boat-racing, and that the referee should be a man of experience, of integrity and sound judgment upon such matters. A copy of the articles of agreement, showing upon what conditions the man or men have agreed to contend for supremacy, should be given to the referee, and he must remind each one of the contending parties that the race must be rowed in strict accordance with such agreement. Upon preparing to start, the referee and two judges shall take their positions together and give their sole attention to the race. Should one boat swerve toward the other, or endeavor to take the water before there is a clear open length between them, or by such crossing the man or men in the hindmost boat are obliged to ease or slacken their stroke; or should the oars or boats touch or foul one another in any way, from which cause either judge would be called upon to put in a claim, the referee, paying strict attention to his duty, having observed the action, movement, and course of each boat, will be prepared, upon the appeal of the judge or judges, to decide which man or crew was the aggressor; he should look well to see whether the deviation from the true course was caused by the action of the current, wind, steamboat, or sailing vessel, or by willful carelessness or intent; from the decision of the referee there is no appeal.

CHAPTER IX.

SWIMMING.

SWIMMING has always been held in very high esteem, and has ever been found to be a most delightful and invigorating exercise; yet in a country like the United States, where there are so many facilities for practice, it is astonishing how few learn this necessary accomplishment. The principal cause of neglecting the acquirement of this art is because parents leave it entirely to chance. Indeed, I believe very often accident makes the swimmer.

Swimming is essentially a very healthy exercise, and one which, if properly studied, tends greatly toward the muscular development of the chest and arms. In fact, it is one of the most effective of bodily exercises, and gives a healthful action to the muscles and respiratory organs. As to its usefulness there can not be the least doubt; for how often does it enable those who are masters of it to assist in saving the lives of others.

It is a remarkable fact that the brute creation here has the advantage over man; for almost any animal, on falling into the water will swim, awkward, it may be at first, but never in absolute danger of drowning. The human being, on the other hand, without first learning how to swim, would in all probability drown unless assistance was rendered. This being the case, and all knowing the fact, every one should learn to swim, for swimming, taking into consideration the movements that it requires, is not only

useful in saving life, but also in promoting the muscular strength. If ladies would learn to swim, many lives would be saved not only of their own sex, but of the males who often spring to their protection and are lost in the attempt to save them.

I regard swimming as one of the most beneficial exercises that can possibly be taken in summer. The best time of the day for "taking a swim" is either before breakfast, between the hours of six and eight A. M. during the months of July and August, or between eleven or twelve in the forenoon. Weak or delicate persons should not bathe at early morning. They should never enter the water on a full stomach, and never when overheated and exhausted by fatigue. It is not well to enter the water during a rain-storm, as the clothes often become damp, which gives the bather cold.

It is said the Athenians regarded swimming as indispensable, and when they wished to designate a man who was unfit for any thing, they would say "he can not even swim!"

Many aids have been invented for the use of beginners, such as corks, bladders, and the like, fastened under the arms. But all of them offer dangerous temptations for young swimmers to go out of their depth, and then should cramp, cold, or any other accident occur, the event might prove fatal. Besides, these corks or bladders often slip about from one place to another. An instance of this kind I well remember. I was at the bath of Mr. Thomas, at the Battery, in the summer of '48—it was on one of those warm sultry days which occur in the latter part of July. There were many bathers; one in particular attracted my attention. He was evidently a new beginner, for he had corks placed under his arm-pits; but by some mis-

hap they had become entangled in his legs, and in a moment he was suspended in the water with his head downward. Fortunately assistance was at hand, and he was relieved from his perilous situation.

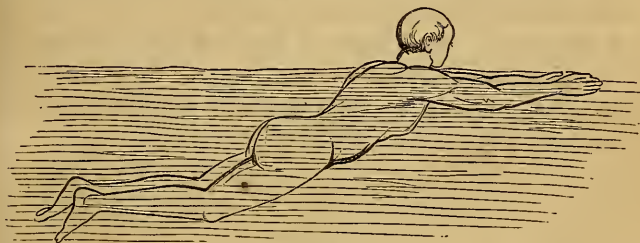
Although corks, bladders, air-jackets and the like are by no means to be despised, the very best aid to beginners is a careful and judicious friend, who is a good swimmer, and who will take some pains to show you how to strike out, and manage your hands and feet. Have a belt round the body, close under the arms, with rope attached, held in the hand of a friend by the side of a float; or, what is better, a boat: you strike out with hands and feet as the boat proceeds.

Some learn to swim by means of a plank—but this I consider quite dangerous, from its tendency to slip from under the body, or float you into deep water.

The safest and best plan of all is, first to practice the movements of the arms and legs. This can be done before going into the water—at home, or at a gymnasium where the theory of swimming is taught. After which go into the water, advancing gradually up to the armpits; then turning about, strike out toward the shore, keeping the legs as far from the bottom as possible. Beginners persevering in this course will, in a very short time, be enabled to feel that they can move, float, and swim—a feeling almost equal to that experienced by the child who first feels that he can walk from chair to chair.

In *striking out*, keep the head and neck upright; the chest inflated, drawing the legs up and again stretching them out, extending the arms forward in unison with the legs. The back should be drawn in; and the head thrown well back. The hands must be placed in front of the breast, the fingers pointing forward and kept close togeth-

er, with the thumbs to the edge of the forefingers. In the stroke of the hands they should be carried forward to the full extent, but must not touch the surface of the water. They must next sweep to the side, about as low as the hips, and then be drawn up again by bringing the arms toward the side, bending the elbows upward and the wrists downward, so as to let the hands hang down while the arms are raising them to the first position.



Striking out.

There are many who hold to the opinion that the human body is lighter than water, and consequently will float, but we all know that one falling into deep water and not knowing how to swim, unless assistance is rendered will soon drown.



Hand over hand.

Hand over Hand.

This is a very rapid mode of swimming, and is well adapted for short distances, as it can not long be kept up

in consequence of the great muscular effort required. One hand is first lifted out of the water and the whole arm and shoulder swung through the air forward as far as the reach will permit; it is then dropped into the water edge-wise, then turned with the palm downward, the shoulder so far advanced that the body is thrown upon its side. Just after the hand reaches the water, while the opposite leg, having been drawn up under the stomach, is forcibly thrust backward, the hand is swept back toward the hip, and when extended backward is raised from the water, and carried forward in the air as before. There is somewhat of a pause of the hand at the hip, while the other hand is being thrust forward.



Swimming on the back.

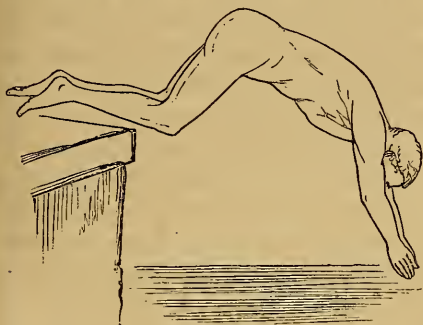
In *swimming on the back*, the swimmer turns upon his back in the water by the combined motion of the arm and leg, and extending the body, the head being in a line with it, so that the back and upper part of the head may be immersed. While the face and breast are out of the water, the hands placed on the thighs straight down, and the legs moved as in forward swimming, care must be taken that the knees do not rise above the surface in thrusting them out. The hands are often used after the motion of a fan, by which a slight progression is obtained.

Diving.

In shoal water you should fling yourself as far forward as possible into the stream at a very oblique angle. In

deep water the body is to descend at a greater angle. The arms should be stretched out, hands closed and pointed.

Diving is considered with the young as one of the grandest amusements connected with swimming. Care must be taken to draw the head down so that the chin will touch the chest. The arms should be extended forward, and the hands closed to a



Diving.

point. In making a leap or jump from any considerable height, the legs, arms, and head are to be kept perfectly stiff and straight; not spreading them or bending the body.

Treading Water.

This is a perpendicular position, and is of great use to enable the swimmer to save another from drowning. Many think it difficult; but it is really quite easy when one knows how to do it. There are two ways of performing the action: In the first the hands are



Treading water.

compressed against the hips, and the feet describe their usual circle. The other mode consists in not contracting both legs at the same time, but one after the other ; so that while the one remains contracted, the other describes a circle. In this mode, however, the legs must not be stretched out, but the thighs are placed in a distended position, and curved as if in a half-sitting posture.

The Mill.

The swimmer, lying on his back, draws the knees close to the chin, and while one of the hands keeps the equilibrium by describing circles, the other continues working. By this means the body is kept turning round more or less rapidly.

Swimming under Water.

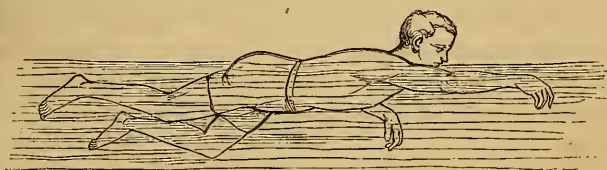
When under the water the swimmer must keep if possible the eyes open—at least in water that is clear and admits the light. It will enable you to ascertain the depth of water.

Floating.

The body is laid horizontally on the back ; the arms extended over the head ; the feet in their natural position ; the loins as low as possible. In this position the swimmer remains and floats at pleasure. The lungs must be kept inflated so that the breast may be distended, and the circumference of the body augmented in order not to sink while taking breath. The breath must be quickly expelled, and as quickly drawn in again, and retained as long as possible. For as the back is in a flat position, the sinking, on account of the resistance of the water, does not take place so rapidly but that the quick respiration will restore the equilibrium before the water reaches the nose.

The Fling.

The swimmer lays himself flat upon his waist; draws his feet as close as possible under the body; extends his hands forward; and with both feet and hands beating the water at the same time, raises himself out of the water. In this manner one may succeed in springing out of the water as high as the hips. This exercise is useful for catching a rope or any object that hangs from above the surface of the water.



Swimming like a dog.

Swimming like a Dog.

In this motion each hand and foot is used alternately, as you see a dog uses them when swimming. The hands are drawn toward the chin in a compressed form, and then expanded and slightly hollowed with fingers close; as they strike the water, the feet are drawn toward the stomach, and then backward with a kind of kick. This is very good for a change in swimming a long distance.

Cramp.

The swimmer should never be alarmed or frightened when taken with cramp, for it is seldom that it attacks more than one limb; and he is a poor swimmer indeed who can not support himself with the three remaining ones. All you have to do is to throw yourself on your back and straighten the limb by pointing the toe, when it will leave the part.

" In case of cramp in the bowels, the best way is to float on the back till assistance is rendered. Persons should not bathe when the water is cold, or when the body is chilly from cold—nor when exhausted or overfatigued from violent exercise, nor soon after eating.

Resuscitation.

For those who have been long under water, keep the body in a horizontal position ; place it near a fire ; strip off the wet clothes, and rub it dry as soon as possible, after which wrap it up in blankets and use hot flannel cloths to rub with under the blankets. Bottles of hot water should be applied to the arm-pits, the thighs, soles of the feet and legs, the head slightly raised. If there is any power of swallowing, a little hot brandy and water or wine with some ginger in it should be given. Friction should be kept up until the arrival of medical aid.

CHAPTER X.

SKATING.

THIS has become within the last few years a popular amusement with us—not only as an exercise, but as an accomplishment. The instructions or exercises here laid down are calculated more for new beginners, as all at first require practice which can be taken at home or at any hall where instruction in skating is given. This practice will give strength and flexibility to the muscles of the feet and ankles, and in fact all the lower limbs, with a correct and graceful carriage of the body.

It may be very pleasant to the spectators to see one on skates for the first time, especially if the ice is smooth. But the skaters will be apt to find their feet in every place but the right place. This is the way that many become disgusted with skating when the attempt is first made upon ice without any previous practice—to the novice it looks almost as easy as walking, but how his opinion changes upon the first trial.

I would recommend to beginners to practice a few times on what are called “parlor skates.” The exercise of itself is good in giving strength and tone to those parts that most require it when skating upon ice. I have never yet seen one person fail to skate upon ice who first took practice on parlor skates—the correct manner of using the feet—posture of the body—position of arms and head—all

combine to give confidence when you enter for the first time upon ice skates.

Selection of Skates.—Some judgment is to be used in the selection of skates for the new beginner. If the steel is too high, there is too much strain upon the ankle; if too low, and the foot should turn in or out so that the wood part touches the ice, it would likely check the movement, if not occasion a fall. As to the size of the skates, they should fit exactly the length of the foot.

Mode of Fastening.—There are various modes of fastening the skates to the feet, but there is only one true way; and that is to fasten in such a manner as not to prevent the free circulation of the blood through the foot, or even the free motion of the joints of the toes, heels, or ankles. The only skates now in use that I have seen answering every needed purpose are those that screw or fasten to the sole of the boot or shoe—there being no straps crossing the foot or ankle.

Here we are on the ice for the first time for skating. Stand erect, without losing the balance; feet close together and parallel. Now it would be well if a friend would draw or push you along to accustom you to preserve the equilibrium during the gliding; next on one foot alternately. The whole weight is to be placed upon the foot which is to glide—the right—the left pushing slightly from the ice; and so on, first right, then left.

There are two precautions to be observed in this, the first trial: to lean the upper part of the body slightly forward, in order to prevent an overbalance backward; and not to turn the feet too much outward, in order to prevent the legs from separating in a straddling posture.

All the simple movements at first should be carefully attended to. Never look at your feet, or at the ice near.

the feet, but keep a good lookout at a distance. The head should be well up, the face looking in the direction intended to be followed. The movements should be smooth, and free from sudden starts or jerks.

Straight skating involves that the right foot shall be foremost, almost straight forward, the whole weight of the body resting on it, knee bent; left foot, behind the right, turned outward, pushes off; the steel pressed against the ice and forming nearly a right angle with the right foot. After the left foot has pushed off, it draws up near the right, as near the ice as possible, while the right foot continues its gliding motion. The right knee gradually stretches, and the upper part of the body erects itself. The longer the gliding on one foot, the better.

Now bring the left foot forward, the right pushing off. All motions of the body and shaking of the hands and arms are to be avoided. The arms should hang naturally; crossing them before the breast or on the back tends to render the body steady.

Stopping is effected by bending the knees, drawing the heels together and bearing down on them, or by a short turn either to the right or left.

In skating in straight line, with the body perfectly straight, the foot which pushes off is raised over the other gliding. After having acquired some certainty in this motion, you may begin to incline gradually to the right side, then the left.

Skating in circular line, or what is more commonly called "outside edge," is much more difficult than the preceding. As soon as the right foot is advanced, the left shoulder should be thrown forward, right arm back, and the face turned over the right shoulder; the body inclined to the right; the left foot raised behind. Next the

left foot is brought by, and with a slight smooth and graceful movement of the body, the right foot pressing on the heel of the plate. Then on the inside of the toe, just as the left foot touches the ice, about eight or ten inches in front of the right, strike to the left on the outside edge. In this way you pass from right to left, inclining the body accordingly. When this can be done well, the other motions follow with great ease.

Skating in a serpentine line, or what is sometimes called the "Mercury Figure," consists in standing upright—the feet parallel; turn alternately to the right and left, the right and left foot giving an almost imperceptible pressure against the ice, and this producing the advancing motion.

The Dutch Roll is done by commencing on the outside edge, each foot making a small segment of a large circle in this form—

Left foot,

Left foot,

Right foot,

Right foot,

but holding as straight a course as is possible with the keeping of the skates on the outside edge.

The Cross Roll, or "Figure 8," is also performed on the outside edge forward. It is only the completion of the circle, and is done by crossing the legs and striking from the outside, instead of the inside edge. As you draw close on the right leg throw the left quite across it, and press hard on the outside of the right skate; at the same time throwing back the left arm and looking over the left shoulder. By completing or making the circle in the manner on each leg, the Figure 8 is formed.

Skating with stepping over, as you are going forward,

is thus performed: Put the left foot, which has given the push, over the right upon the ice—the right being raised and the motion being continued on the left. This may also be changed into a circular line, either to the right or left side.

Inside Edge, Backward.—Here you turn from the outside edge forward to the inside edge backward on the same foot, making a half circle. When it is complete, lean forward and rest on the same toe inside, performing a backward motion. By this movement you form the Figure 3.

Outside Edge, Backward.—Having made or cut the Figure 3, continue in the same direction, but on the other foot, placing it on the outside edge, and go backward slowly, turning the face over the right shoulder: raise the right foot from the ice and throw back the right arm.

In finishing any particular figure, either forward or backward, the perfect use of both feet adds much to its beauty and grace.

When the skater is able to do the “inside edge forward,” “outside forward,” “inside back and outside back,” he has mastered the best elements of skating—for from these all others flow with great ease and rapidity. Once being able to perform those well, quadrilles and other dances will be executed with grace and ease.

Back Roll.—You are on the outside edge. By a slight movement of the right foot, and throwing the left shoulder back and turning the face in the same direction, the inside of your left skate bears on the ice. You strike from it to the outside back of the other, by a heavy pressure at the toe. Having now done the backward roll on the right foot, go on and repeat the same with left.

Back Cross Roll.—This is performed by simply changing the balance of the body. You move from one foot to

the other, as in the back roll: The only difference being that you start from the outside instead of the inside edge of the skate. The back roll is sometimes done with a run, the head turned over the right shoulder, and the right foot turned slightly outward.

Dress.—The skating dress should be close and warm: flannel next the skin ought in every case to be worn; for we all know that this exercise produces great perspiration, and when standing or riding after it, a chillness is very apt to come on without the use of this warm material. I would recommend all who live within a reasonable distance, to walk home after skating. By this means the blood would be kept in brisk circulation, and the liability of taking cold would be less. Those who are subject to colds must avoid as much as possible skating against the wind.

It has been found that in countries where they have long winters, and consequently much skating, inflammations of the chest or lungs are very common. Young persons often expose themselves too much. If you should fall through the ice, extend the arms horizontally over the edges of that which is unbroken till a plank or rope is passed to you.

3.

National Games.

CHAPTER XI.

CRICKET.....	169—182
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With Six Illustrations.

CHAPTER XI.

CRICKET.

THE materials for the game are: First, the *Ball*, which must weigh not less than five ounces and a half, nor more than five ounces and three-quarters. It must measure not less than nine inches, nor more than nine and a quarter in circumference. Second, the *Bat*, which must not exceed four and a quarter inches at the widest part, and must not be more than thirty-eight inches in length. Third, the *Stumps*, which are three in number, twenty-seven inches out from the ground; the bails eight inches long; the stumps of sufficient thickness to prevent the ball from passing through.

The Bowling-Crease should be in a line with the stumps—six feet eight inches in length, the stumps in centre.

The Popping-Crease must be four feet from the wicket, and parallel to it, unlimited in length, but not shorter than the bowling-crease.

The Wickets should be pitched opposite each other at the distance of twenty-two yards.

Single Wicket.

This is usually played by five persons on each side; but a larger number can play if they please. The striker with the bat is the protector of the wicket. The players stand in the field to catch or stop the ball, and the bowler

takes his place by the side of a small stump set up at the regular distance, twenty-two yards from the wicket, and then delivers the ball, not by a *jerk* or *throw*, but by what is termed a *bowl*. If it is not a fair bowl, but a throw with the hand above the shoulder, the umpire will call "No ball."

The bowl is made with the intent of beating down the wicket. If the bowler is successful, the batsman retires from the position, and another takes his place. But, on the contrary, if the ball is struck by the bat and sent into the field beyond the reach of those who are placed there to stop it, the striker runs to the stump at the bowler's station, which he touches, and returns to his wicket. If this is performed before the ball is thrown back, and by one of the players struck against the wicket so as to knock the bail off, it is called a "run." But if the ball is passed in, and the wicket knocked down before the striker is "home" or

can ground his bat within three feet ten inches of the wicket (this mark being called the "crease"), he is declared "out." He is also "out" if the ball is struck into the air and is caught by any of the players before it touches the ground.



Batsman.—Correct Position.

Beginning Play.

Place your bat upright on the mark at the place where the measure comes to the "crease"—this will show that you are ready. The bowler will call "Play!" The batsman now strikes at the ball as it comes within range of his bat; or should it

not be a good ball to strike at, he may "block" it; but in doing this he must be careful not to let the lower end of the bat be in advance of the upper part, as the ball would be apt to rise in the air, and you would be "caught out."

When you strike the ball wide enough, immediately run to the bowling-stump, bat in hand, touching it, and return to the "popping-crease" and ground the bat on the mark or "home."

Rules for Single Wicket.

When there are less than five players on each side, "bounds" must be placed, twenty-two yards each, in a line from the "off" and "leg-stump."



Bowled on Off Side and hit.

Wide of Leg-Stump, with a hit to Leg.

The ball should be hit before the "bounds" to entitle the striker to a "run," which run can not be obtained unless he touch the stump or crease in a line with it.

When the striker hits the ball, one of his feet must be

on the ground behind the "popping-crease," otherwise the umpire shall call "No hit!"

When there are less than five players on a side, neither "byes" nor "overthrows" shall be allowed; nor shall the striker be caught out behind the wicket, nor stumped out.

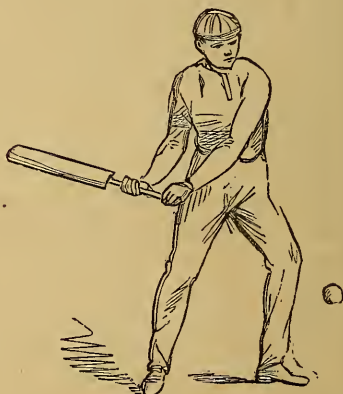
The fieldsman must return the ball so that it shall cross the space between the wicket and the bowling-stump, or between the stumps and the bounds. The striker may run till the ball be so returned.

After the striker has made one run he must touch the bowling-stump, and run before the ball shall cross the play to entitle him to another.

The striker is entitled to three runs for "lost ball," and the same number for "ball stopped" by stone, rail, or any object.



The Cut.



The Drive.

When there are five or more players to a side, there must be no "bounds;" all "hits," "byes," and "overthrows" will then be allowed.

The bowler is subject to the same rules as at double wicket. Not more than one minute should be allowed between each ball.

Two or three may play. When there are three, the second player will act as fieldsman; and when the ball is struck nearer to him than the bowler, he will catch it and throw it to the bowler.



The Block.

If the striker attempt to run, the bowler must run to the wicket, and the fieldsman throw the ball to him that he may catch it and touch the wicket with it, which puts the striker out. When the first striker is "put out," the bowler will take his place, the fieldsman will bowl, and the former striker take the field.

When four are playing, the fourth should stand behind the wicket; and if more than four are playing, the additional players should take the field.

The general rule when many play is, that as soon as the striker is "out" he becomes bowler; next, wicket-keeper; then takes his place in the field on the left of the bowler; and so on in regular order until it is again his turn in new innings.

Double Wicket.

This is played by twenty-two persons, eleven on each side, and two umpires, with persons to keep the score, etc., etc.

There are fourteen persons in the field or at play at one time :

- | | |
|-----------------------------|---------------------|
| 1. Two Batsmen or Strikers. | 7. Long-Slip. |
| 2. One Bowler. | 8. Cover Point. |
| 3. Wicket-Keeper. | 9. Mid-Wicket. |
| 4. Long-Stop. | 10. Long-Field Off. |
| 5. Point. | 11. Long-Field On. |
| 6. Short-Slip. | 12. Leg. |

13. On Side. In swift bowling an extra man is substituted for "*on side*."

Two umpires are necessary in every full game, one being stationed at the strikers' and the other at the bowler's wicket.

*Position of the Field.**

Off Side.

Long-Field Off.

Cover Point.

Long-Slip.

Mid-Wicket.

Third Man.

Umpire. **

Point. **

*** *Short-Slip.*

Wicket. — † *Batsman.*

Batsman. † —
— † *Wicket-Keeper.* *** *Long-Stop.*

Bowler. **

*** *Umpire.*

Long-Field On.

On Side.

Leg.

Commencing Play.

It is usual to toss for "first innings," the winning party sending two batsmen to the wicket, the other party taking

* For slow bowling, the third man is not required. I place him here to show his position in swift bowling.

the field, each man in his proper position as in the diagram. The object of the bowler is to knock down the wicket, and that of the batsman to prevent it. The fielder's duty is to catch or stop the ball, and throw it in as quickly as possible, so as to knock down the wicket while the batsman is in the act of running from one to the other.

When the striker hits the ball, and it is driven in such a direction that it can not be quickly returned, the striker runs from wicket to wicket, and each "run" is scored in their favor. When the bowler shall have bowled four or six balls, as may have been agreed upon at the commencement of the game, the umpire calls "Over!" and the fieldsmen reverse their position by crossing to the opposite side of the field.

When the ball is caught by the "Outs," or from the wicket being struck down, or from any other cause within the ruling of the game, the batsmen one after the other retire, and those of the opposite side take their places in the same manner, and when each side has had two innings, the "runs" are counted: the party having the greatest number is declared the victor.

Position of the Batsman.

He should stand as close to the "block-hole" as possible, and as near to the "popping-crease" as he can; but he must not stand before the wicket. The right foot should remain firm close behind the crease; the left foot at ease and toward the bowler. The bat should be held so as to cover the middle stump of the wicket. The batsman should be careful to keep the left shoulder forward, and the left elbow high up. In striking the ball the hands should be near together, but not so close as to touch. The

ball should be struck from six to eight inches from the end of the bat. If the ball come in such a way that it would be difficult to hit "to field," by turning to one side the batsman may strike "between leg" and "long-field on." But it is only with skill and practice that a perfect knowledge of the game can be acquired.

The Run.

Only when the ball is well struck and thrown is there a probability that a "run" can be made. Both batsmen should in this case start, the bats being kept outside of each other. The eye must be looking toward the wicket, which you, being batsman, have to save. Your bat should be grounded at as long a reach as possible. The first run should be rapid, by which means you may get the second, but in this you must use your own judgment. It is much better to lose one or even two runs than to endanger the wicket.

The Bowler.

In order to be a good bowler you should have a quick eye, a strong arm, and nimble hand. The ball is generally delivered with a run with one foot in. If the bowler wants the ball to twist upon leaving the hand, he gives it a turn with the back of the hand to the ground, his object being to knock down the wicket, or to give such balls as the batter can not "block," or from which a run can be made. His style of bowling should be varied; at one time slow, then with twisting, then straight; now quick—again one with another combined. The bowler can direct the batsman who is not employed to stand on either side of the wicket which he may choose.

The Wicket-Keeper.

The position of the wicket-keeper is about four or four and a half feet behind the wicket. The left foot should be forward; eyes and hands ready for action. Those who saw the play of the "Eleven" from England a few years ago, will not soon forget the splendid playing of all, but more particularly that of the wicket-keepers and bowlers. It is the wicket-keeper's duty to see that the fielders are all in their proper places; also to direct their attention more by signs than words. If the striker leaves the wicket at any time unguarded, either for the purpose of running or through carelessness, it is the duty of the wicket-keeper having the ball in hand to knock down the wicket. This is called "running out."

Position of Players.

Short-Slip.—Should stand nine feet from the wicket-keeper on the far side. His duty is to stop or catch the ball, should it pass the wicket-keeper, and to take his place when he, the wicket-keeper, runs after the ball.

Long-Slip.—Stands thirty-six feet from the wicket, and a trifle behind it. This position covers both stop and point. He must be ever watchful to catch or stop the ball, for if it passes him, there will be at least one, and perhaps many runs made.

Long-Field On and Long-Field Off.—These two are stationed opposite to each other, at different sides of the field. Sometimes their positions are varied a little. They should be capable of throwing the ball with precision to the wicket-keeper. The "long-field off," it must be borne in mind, covers mid-wicket.

Mid-Wicket.—His position is thirty feet from the bowler's wicket, off side, and slightly in advance. This is con-

sidered the most important position in the field. He frequently takes the place of the bowler.

Long-Stop.—Stands thirty-six feet behind the wicket, and throws in the ball when it passes the wicket-keeper. This position should be filled by one who can throw strongly and accurately, and who is also quick and active upon the feet.

Cover Point.—This position is between point and mid-wicket, off side, a little to the rear, so that he can cover point.

Leg.—He stands just behind the wicket, forty-five feet from it. He must back up all balls from the off side, no matter from what direction they may be thrown.

Point.—Is placed twenty-one feet from the striker, on the off side. For this position is required one who is extremely active and quick upon the feet, as he frequently is called upon to spring in the air in order to secure the ball. He should be also able to catch and hold well.

Changes.—When the player bats with the left hand, the “long-slip” changes to “wide-fold,” and “point” crosses over with “mid-wicket.” There are other minor changes which can be quickly learned in practice.

Bowler.—It is the rule that no substitute from the field be allowed to bowl, keep wicket, play at point or middle-wicket, except by consent of both parties.

What Puts the Batsman Out.

1. If the bails are knocked off by the ball, or the stumps struck off the ground—he is out.
2. If the ball, after being struck by the bat, be caught before it touches the ground—he is out.
3. If while striking, or at any other time while the ball is in play, he has both feet over the “popping-crease,” and

his wicket is knocked down, unless his bat be grounded within it—he is out.

4. If while in the act of striking at the ball, the bat, his clothes, or from any other cause that care on his part might have prevented, knocks down the wicket—he is out.

5. If he touches the ball while in play, except at the request of the opposite party—he is out.

6. If he stops the ball with any part of his person, which the bowler, in the opinion of the umpire at the bowler's wicket, has bowled in a line with the wicket—he is out.

7. When a ball is caught “on the fly,” or before touching the ground, no run can be counted.

8. When the players have crossed each other, the one that runs for the wicket that is knocked down, is out. But if they have not crossed or passed each other, the one that has left the wicket that is knocked down, is out.

9. When the batsman is run out, there is no run to be scored.

10. When “lost ball” is called, the striker is entitled to six runs. But if more than that number has been made before “lost ball” is announced, then the striker is allowed all he can make.

11. When the ball is in the hands of the bowler or wicket-keeper, it is said to be “dead” or no longer in play; and the batsman is not obliged to keep his position, until the umpire calls “Play!”

12. If the striker should feel ill or get hurt at play, he may retire from his wicket, and return to it again any time during that innings.

13. If the ball is struck up by the batsman, he may guard his wicket with the bat, or his body, but not his hand.

14. Should the striker hit the ball so that it strikes his

partner's wicket, he is "out"—provided that on its course it touches the hands of the bowler or any of the fieldsmen, but not otherwise.

The Wicket-Keeper.

He should not take the ball until it has passed the wicket. He must stand at the proper distance behind, and be ready the instant the ball leaves the hand of the bowler. He shall not in any way excite or incommode the striker; and if, by any excitement or imprudence, any part of his body gets before the wicket, and the ball strike it, the batsman shall not be declared "out," from the fact that the wicket-keeper was not in his proper place.

Dress.

This should be made of good Welsh flannel; jacket and trowsers made large enough to give the muscles free play; a straw hat or light cap, with peak to protect the eyes from the glare of the sun; leg-guards and body-guards for batting and wicket-keeping, with gloves; shoes with spiked soles; these make up in full the cricketer's fit-out.

General Instructions for Beginners.

Batting.—Place the bat exactly opposite the middle stump of the wicket, keeping the left shoulder well forward. Practice the style of batting upward. Keep the handle inclined in the direction of the bowler. When balls come wide, cross the left leg over the right, and if quick enough, you can hit all such balls. But never step out of the place to strike if you can help it. The best balls to hit are those that come within the "popping-crease," and when you do strike, do it properly and with vigor. The ball then will be sent so you can score.

Bowling.—The bowler should endeavor, as soon as possible, to discover the weak point of the striker, and play accordingly against it. He should as far as lies in his power give fair balls, for this way of playing constitutes the gentleman. The most difficult balls for the batter are those bowled wide of the leg or off-stump.

The Best Way to Defend the Wicket.—This consists principally in blocking and striking. The general fault of beginners is that they hit at every ball, no matter how wildly it is bowled. Now it requires practice, combined with good judgment, to know when to strike and when to block a ball. In blocking, hold the bat as described in hints on batting; and in striking, be careful and not knock it up and give your opponents an opportunity to catch you out.

Running.—When you have struck the ball, watch its direction with the eye and run as rapidly as possible. Be careful and cautious throughout your play at the bat. Some players become so elated after making one or two successful runs that they become careless, and when they least expect it are bowled or stumped out.

Duties of Umpires.

1. The umpires are the sole judges of fair and unfair play, and all disputes must be decided by them, each at his own wicket.

2. They should stand from eighteen to twenty feet from the wicket. When a catch is made, which the umpire at the wicket can not see sufficiently to decide upon, he may apply to the other umpire, whose opinion is final.

3. Two minutes should be allowed for the batsman to come in, and fifteen between each innings. Should either party refuse to play after the umpires call "Play"—the

side so refusing shall be considered to have lost the match.

4. When the bowler's foot is not behind the "bowling-crease," and within the "return-crease" at the time he delivers the ball, the umpire must call "No ball!" and if the striker runs short, he must call "No run."

5. In running, if either of the batsmen fails to ground his bat in hand, or some part of his person over the popping-crease," the umpire has the power to deduct two runs, because such striker has not run the full distance.

4.

National Games.

CHAPTER XII.

BASE BALL.....	185—202
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CHAPTER XII.

BASE BALL.

EVERY year brings with it increased interest in the great national game of Base Ball. What cricket is to England, base ball is to America. The popularity now enjoyed by the followers of athletic games, which is happily every day becoming more and more practiced and encouraged, gives proof that we as a people are destined to be a stronger, hardier, and better formed body of men twenty years hence. Never before were there so many young men devoted to out-door exercises. In the manly and invigorating game of base ball they can be numbered by tens of thousands. From this fact we may live in hopes of the better physical condition of our young men.

Every college in the country has its ball clubs, and the students deserve credit for promoting and keeping alive a spirit that tends to foster health, enterprise, and endurance. The interest attached to this out-door amusement for the last few years has been very great: every day, from early spring until late in the autumn, it has attracted thousands of every age and of both sexes into the green fields either to see it played or to take part in it. It may well be called a National Game, for it has been played at the Capital of the country, and witnessed by the President and heads of the different departments. There have been as many as ten thousand persons of both sexes to witness some of the late matches.

There is no question but that in *physique* we are surpassed by the British. We are deficient in those manly sports and exercises which, while they strengthen the physical frame and animate the moral organization, confer at the same time vigor, grace, and elasticity on the whole being. The evanescent character of American beauty is the result of a want of out-door exercise. The American lady will tire in a walk of two miles, while an English lady of the same age will walk from three to eight miles before breakfast and think nothing of it. The consequence of this difference is that an English lady, at forty is in the prime of beauty and womanhood, while an American lady of that age would almost consider herself, or be considered by others, in the days of Auld Lang Syne. I hope soon to see the day when our ladies will be counted by the thousands out upon the green fields with mallet in hand, playing croquet—or mounted on a fine horse and dashing through our beautiful park—or upon the water inhaling the pure, fresh air; this will give a color to the cheek far superior to any cosmetic.

Our young men too often neglect their *physique*. Fortunately, a better spirit is awakened among us. We are beginning to realize the truth of the old adage—"all work and no play makes Jack a dull boy."

The Game.

It is necessary, in order to have every position filled, to have nine players, who are to occupy the following named places: 1. Catcher. 2. Pitcher. 3. Short Stop. 4. First Base. 5. Second Base. 6. Third Base. 7. Left Field. 8. Centre Field. 9. Right Field. The game is often played with more or less, but only for practice. All match or regular games have nine upon each side only.

Catcher.—The player in this position is expected to catch and stop the ball either pitched or thrown to the home base. He must endeavor to catch all “foul balls,” and also be able to throw with accuracy and speed to the several bases. When a striker has made his first base, the position of the catcher should be close to the bat, so as to take the ball without a bound from the pitcher, and pass it quick to second base in order to cut off the player running from first to second. He should also watch the other bases—his position giving him the best opportunity.

Pitcher.—The pitcher’s position is on a direct line with home base, forty-five feet distant at the time the ball leaves his hand. Both feet must be on the ground. He must *pitch* the ball, not *jerk* or *throw* it; and he should be careful also to deliver the ball over or as near over the home base as possible, and at the height the striker desires. Section 5 of the Rules will guide the umpire in this respect. A “balk” will be declared if the pitcher moves his arm with the apparent purpose of pitching the ball and fails so to do. When a player is on the third base, he should follow the ball to near the home base, and be prepared there to take it from the catcher; also to occupy the deficient bases when the players of such positions have left them to field the ball. An even or uniform delivery is the first requisite for a first-class pitcher. The degree of speed is governed by the amount of twist given to the ball.

Short Stop.—The position of short stop is a very important one, and is looked upon by many as being the second in importance. The one who fills it with honor to himself and his club must have judgment, activity, accuracy in throwing, and also be a good catcher and stopper. Now to find all these qualities combined in one person is rare. He must back up the pitcher and third base man, and

second and third when the ball is thrown from the field. He should always be near the pitcher or third base man when they attempt to take a foul fly; in case they miss, he may succeed in taking it on the bound. A short stop and first base player should practice throwing and catching together. This will make them familiar with each other's play, and have its good results in match games.

First Base.—The one who plays in this position should stand some distance back, and from four to eight feet inside of the foul-ball post line when the ball is struck, and if he finds it comes not in his direction, he should that moment spring to his base and be in readiness, with one foot on or touching the base, to receive the ball from the one who has fielded it. The player, filling this position as it should be filled, must be a superior catcher, balls coming with great speed to the right, to the left, to the feet, and frequently over the head, and all looked for, to be held. None but an expert can be expected to come fully up to the requirements.

Second Base.—This is certainly an important position, and requires an excellent player to fill it. He should be a sure catcher, an accurate and swift thrower, and a good fielder. He should stand back of the base, and either to the left or right of it, according to whether the striker hits from the right or left hand. He must back up the pitcher, allowing no balls to pass if it can be prevented. When the striker reaches the first base, he should return and stand in a position to receive the ball from the catcher, and put out the one running by touching him with the ball. When the ball is badly thrown by the catcher, every effort should be made to stop it, and also promptly to return it to the pitcher.

Third Base.—The third base requires its occupant to be

in every respect a first-class player. One of the most noted and universally acknowledged scientific players at base ball in this country fills this position. Those playing bases must avoid obstructing them or the line of the same, when their opponents are running or making their bases.

Left Field.—The first requirement for this position is to be capable of holding fly balls; the second to run well; the third to throw with speed and at the same time accurately.

Centre Field.—This position should be filled by an active player, for he has not only to take fly balls, but he must also back up the second base, and assist in fielding balls that are passed by the left or right fielders.

Right Field.—The player who fills this post has as a general thing less to do than any other one of the nine. Admitting this to be the fact, a good player should always occupy it, so that he might take the place of another in case of an accident. He should at least be one of skill and experience.

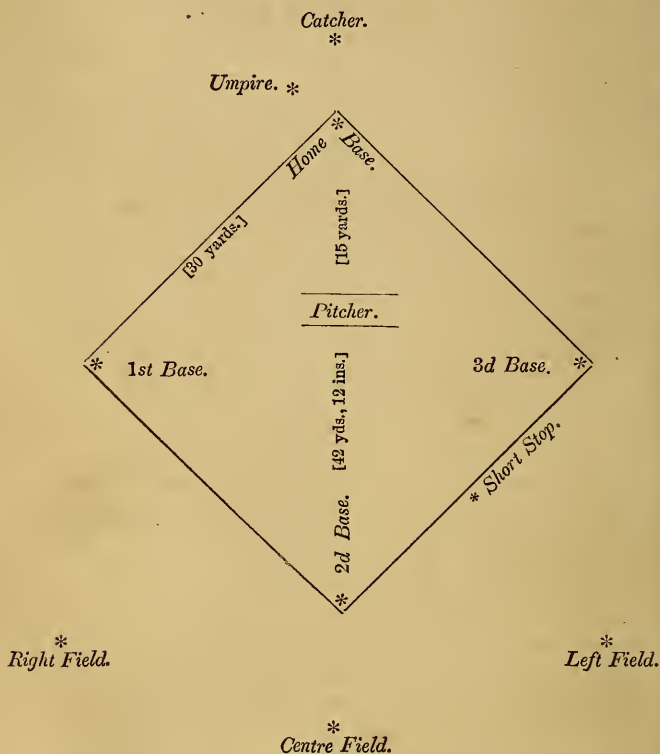
The first point to be considered in selecting the ground is, that it be level and free from moving sand or gravel. Sandy or gravelly bottoms often occasion falls, scraping or cutting the fingers or hands, etc., which are by no means agreeable or pleasant. Sod well rolled is perhaps the best for ball playing. The space should be at least five hundred feet long by three hundred and fifty wide. The catcher's ground should be smooth and hard; the pitcher's also.

It is quite unnecessary that I should describe the manner of keeping game, as each club has its regular scorer.

The history of the present style of playing Base Ball (which of late years has been much improved) was commenced by the Knickerbocker Club in the year 1845. There were two other clubs in the city that had an organization that date back as far as 1832, the members of one of which

mostly resided in the first ward, the lower part of the city, the other in the upper part of the city (9th and 15th wards).

Ball Ground.



Both of these clubs played in the old-fashioned way of throwing the ball and striking the runner, in order to put him out. To the Knickerbocker Club we are indebted for the present improved style of playing the game, and since

their organization they have ever been foremost in altering or modifying the rules when in their judgment it would tend to make the game more scientific.

Model of Score-Book.

_____ *Base Ball Club.*

INNINGS.

PLAYERS.	POSITIONS.	1.	2.	3.	4.	5.	6.	7.	8.	9.	TOTAL H. O.	TOTAL RUNS.
1. [Name.]	C.											
2. "	P.											
3. "	S.S.											
4. "	1B.											
5. "	2B.											
6. "	3B.											
7. "	L.F.											
8. "	C.F.											
9. "	R.F.											
Total Runs in each In- nings												

Grand Total _____

Passed Balls, _____

Umpire, _____ Winning Club, _____

Date of Match, _____ Scorer, _____

Where Played, _____

The First Convention of base ball players was held in the city of New York, in May, 1857, from which sprang the National Association. At that date the following named clubs were organized:

New York: Knickerbocker, Gotham, Eagle, Empire,

Baltic, Harlem, Independent, Metropolitan, Champion, St. Nicholas.

Brooklyn: Excelsior, Star, Enterprise, Atlantic, Hamilton.

Williamsburg: Putnam, Continental.

Greenpoint: Eckford.

Jamaica: Atlantic.

Morrisania: Union.

Newark: Newark.

New Brunswick: Liberty.

The Tenth Annual Convention of the National Association of Base Ball Players was held at Clinton Hall in the city of New York, on Wednesday evening, December 12th, 1866. Two hundred and twelve clubs were represented. The following are the names of each club, and where located:

NEW YORK CITY.—Knickerbocker, Gotham, Eagle, Empire, Mutual, Active, Athlete, World, New York, Jefferson, M. M. Van Dyke, Endeavor, Eclectic, Exercise, Fulton, Mystic, Sparta, Harlem, Social, Hope.

NEW YORK STATE.—Atlanta, *Tremont*; Atlantic, *Jamaica*; Alert, *Elmira*; Auburn, *Auburn*; Binghamton, *Binghamton*; Central City, *Syracuse*; Cypress, *East New York*; Eagle, *Flatbush*; Enterprise, *Clifton*; Earnest, *Riverhead*; Excelsior, *Elmira*; Hudson River, *Newburg*; Hudson, *Hudson*; Hector, *Elmira*; Idlewild, *Cornwell*; Knickerbocker, *Albany*; Lone Star, *Mattewan*; Liberty, *Jamaica*; Monitor, *Goshen*; Meteor, *Addison*; Monticello, *Monticello*; Monitor, *Corning*; National, *Albany*; Niagara, *Buffalo*; Ontario, *Oswego*; Pacific, *New Utrecht*; Palisade, *Yonkers*; Surprise, *West Farms*; Sparkill, *Piermont*; Union, *Morrisania*; Union, *Elmira*; Union, *Lansingburgh*; Una, *Mount Vernon*; Undercliff, *Cold Spring*; Utica, *Utica*; Victory, *Troy*; West Point, *Buttermilk Falls*; Williamsport, *Williamsport*; Washington, *Port Chester*; Walkill, *Middletown*.

PENNSYLVANIA.—Athletic, Alert, Athenian, Alvin, Awkward, Arctic, Amateur, Armstrong, Bachelor, Commonwealth, Chestnut Street Theatre, Dirigo, Equity, First Ward, Germantown, Gymnast, Henry

Clay, Keystone, Kensington, Korndoffer, Leisure, Minerva, National, Olympic, Orion, Philadelphia, Raleigh, Ritterhouse, Typographical, West Philadelphia, *Philadelphia*; Alert, *Danville*; Alleghany, *Alleghany*; Brandywine, *Westchester*; Excelsior, *Coatsville*; Hiawatha, *Kittanning*; Independent, *Johnstown*; Juniata, *Hollidaysburgh*; Keystone, *Harrisburgh*; Kickerrepawling, *Johnstown*; Neptune, *Easton*; Rival, *Providence*; Star, *Altoona*; Scranton, *Scranton*; Social, *Huntingdon*; Tyrolan, *Harrisburgh*; Union, *Titusville*; Unity, *Port Richmond*; Wild Cat, *Brookville*.

NEW JERSEY.—Americus, *Newark*; Active, *Newark*; Atlantic, *Trenton*; Burlington, *Burlington*; Bergen, *Bergen*; Champion, *Jersey City*; Camden, *Camden*; Columbia, *Bordentown*; Eureka, *Newark*; Excelsior, *Paterson*; Friendship, *Beverly*; Irvington, *Irvington*; Kearney, *Rahway*; Monmouth, *Hoboken*; Liberty, *New Brunswick*; Nassau, *Princeton*; National, *Jersey City*; National, *Morristown*; Newark, *Newark*; Olympic, *Paterson*; Palisade, *Englewood*; Princeton, *Princeton*; Randolph, *Dover*; Resolute, *Elizabeth*; Star, *New Brunswick*; Sea Side, *Long Branch*; Trenton, *Trenton*; Union, *Camden*.

CONNECTICUT.—Alert, *Hartford*; Alert, *South Norwalk*; Agallian, *Middletown*; Bridgeport, *Bridgeport*; Charter Oak, *Hartford*; Forest City, *Middletown*; Hockanum, *North Manchester*; Howard, *Hartford*; Liberty, *Norwalk*; Monitor, *Westport*; Monitor, *Waterbury*; Marvin, *Norwichtown*; New Britain, *New Britain*; Oceanic, *Mystic Bridge*; Pequot, *New London*; Quinnipiack, *New Haven*; Pond Grove, *Fair Haven*; Uncas, *Norwich*; Waterbury, *Waterbury*; Yale, *New Haven*.

VARIOUS STATES.—Alert, *Cumberland, Md.*; Antietam, *Hagerstown, Md.*; Buckeye, *Cincinnati, Ohio*; Burlington, *Burlington, Vt.*; Crescent, *St. Albans, Vt.*; Continental, *Washington, D. C.*; Capitol, *Washington, D. C.*; Capitol, *Columbus, Ohio*; Cincinnati, *Cincinnati, Ohio*; Diamond State, *Cincinnati, Ohio*; Eon, *Portland, Maine*; Enterprise, *Baltimore, Md.*; Fort Scott, *Fort Scott, Kansas*; Hunki Dori, *Wheeling, Va.*; Interior, *Washington, D. C.*; Jefferson, *Washington, D. C.*; Lightfoot, *Chattanooga, Tenn.*; Live Oak, *Cincinnati, Ohio*; Maryland, *Baltimore, Md.*; Northwestern Association, *Chicago, Ill.*; National, *Washington, D. C.*; Olympic, *Louisville, Ky.*; Olympic, *Washington, D. C.*; Occidental, *Gambier, Ohio*; Pastime, *Baltimore, Md.*; Potomac, *Washington, D. C.*; Pioneer, *Portland, Oregon*; Union, *Washington, D. C.*; Union, *St. Louis, Mo.*; Union, *Richmond, Va.*; Western, *Burlington, Iowa*; Wahkousa, *Fort Dodge, Iowa*.

RULES AND REGULATIONS *adopted by the NATIONAL ASSOCIATION OF BASE BALL PLAYERS, held in New York, December 12th, 1866.*

Ball.

SECTION 1.—The Ball must weigh not less than five and one-half, nor more than five and three-fourths ounces avoirdupois. It must measure not less than nine and one-half, nor more than nine and three-fourths inches in circumference. It must be composed of india rubber and yarn, and covered with leather; and in all match games shall be furnished by the challenging club, and become the property of the winning club, as a trophy of victory.

Bat.

SEC. 2.—The Bat must be round, and must not exceed two and a half inches in diameter in the thickest part. It must be made of wood, and may be of any length to suit the striker.

Bases.

SEC. 3.—The Bases must be four in number, placed at equal distances from each other (and securely fastened upon the four corners of a square),* whose sides are respectively thirty yards. They must be so constructed as to be distinctly seen by the umpire, and must cover a space equal to one square foot of surface. The first, second, and third bases shall be canvas bags, painted white, and filled with sand or sawdust [some soft material]; the home base and pitcher's point to be marked by a flat circular iron plate, painted or enameled white.

SEC. 4.—The base from which the ball is struck shall be designated the "Home Base," and must be directly opposite to the Second Base. The First Base must always be that upon the right hand, and the Third Base that upon the left hand side of the striker. When occupying his position at the home base and in all match games, a line connecting the home and first base, and the home and third base, shall be marked by the use of chalk or other suitable material, so as to be distinctly seen by the umpire.

* These words were stricken out by the committee on rules and regulations at the convention held Dec. 13th, 1865, and the words "each corner" inserted.

Pitcher.

SEC. 5.—The Pitcher's position shall be designated by two lines, two yards in length, drawn at right angles to the line from home to second base, having their centres upon that line at two fixed iron plates, placed at points fifteen and sixteen and one-third yards distant from the home base. The pitcher must stand within those lines, and must deliver the ball as nearly as possible over the centre of the home base, and fairly for the striker.

SEC. 6.—Should a pitcher repeatedly fail to deliver the striker fair balls, for the apparent purpose of delaying the game, or for any cause, the umpire, after warning him, shall call "One Ball;" and if the pitcher persist in such actions, "Two" and "Three" balls. When three balls have been called, the striker shall take the first base; and should any base be occupied at that time, each player occupying it or them, shall take one base without being put out. All balls delivered by the pitcher striking the ground before reaching the line of the home base, or pitched over the head of the batsman, or pitched to the side opposite to which the batsman strikes from, shall be considered unfair balls.

SEC. 7.—The ball must be *pitched*, not *jerked* nor *thrown* to the bat; and whenever the pitcher moves with the apparent purpose or pretense to deliver the ball, he shall so deliver it, and must have neither foot in advance of the front line, or off the ground at the time of delivering the ball; and if he fails in either of those particulars, then it shall be declared a "balk." The ball shall be considered as *jerked* in the meaning of the rule, if the pitcher's arm touches his person when the arm is swung forward to deliver the ball, and it shall be regarded as a *throw* if the arm be bent at the elbow at an angle from the body or horizontally from the shoulder when it is swung forward to deliver the ball. A "pitched ball" is one delivered with the arm straight and swinging perpendicularly and free from the body.

Balk.

SEC. 8.—When a balk is made by the pitcher, every player running the bases is entitled to one base, without being put out.

Fair Ball.

SEC. 9.—The striker shall be considered a player running the bases as soon as he has struck a fair ball.

SEC. 10.—If a batsman strikes a ball on which "one ball" has been

called, no player can make a base on such a strike ; nor can any player make a base if the batsman strikes a ball on which "two balls" have been called ; nor, if he strikes a ball on which "three balls" have been called, can more than one base be made by each player occupying bases. In the latter event, the batsman shall also be entitled to one base if he strikes a ball on which a balk has been called. Sections 8 and 9 of the Rules shall apply. In either case the ball shall be considered "dead," and not in play until settled in the hands of the pitcher. In neither case shall it be considered a strike ; and if a batsman willfully strikes at a ball out of the fair reach of the bat, for the purpose of striking out, it shall not be considered a strike.

Striking of Balls.

SEC. 11.—If three balls are struck at and missed, and the last one is not caught, either flying or upon the first bound, it shall be considered fair, and the striker must attempt to make his run.

Foul Ball.

SEC. 12.—The striker is out if a foul ball is caught, either before touching the ground, or upon the first bound.

Three Strikes.

SEC. 13.—Or, if three balls are struck at and missed, and the last is caught, either before touching the ground or upon the first bound, provided the balls struck at are not those on which balls or balks have been called, or not those struck at for the purpose of willfully striking out.

SEC. 14.—Or, if a fair ball is struck, and the ball is caught without having touched the ground.

SEC. 15.—Or, if a fair ball is struck, and the ball is held by an adversary on first base, before the striker touches that base.

Running Bases.

SEC. 16.—Any player running the bases is out, if at any time he is touched by the ball while in play in the hands of an adversary without some part of his person being on the base.

Foul Ball.

SEC. 17.—No run nor base can be made upon a foul ball. Such a ball shall be considered dead and not in play, until it shall first have been settled in the hands of the pitcher ; in such cases, players running bases

shall return to them, and may be put out in so returning in the same manner as when running to the first base.

Fair Ball.

SEC. 18.—No run nor base can be made when a fair ball has been caught without having touched the ground. Such a ball shall be considered alive and in play. In such case, players running bases shall return to them, and may be put out in so returning in the same manner as when running to the first base; but players, when balls are so caught, may run their bases immediately after the ball has been settled in the hands of the player catching it.

Position of Striker.

SEC. 19.—The Striker, when in the act of striking, shall not step forward or backward, but must stand on a line drawn through the centre of the home base, not exceeding in length three feet from either side thereof, and parallel with the line occupied by the pitcher. He shall be considered the striker until he has struck a fair ball. Players must strike in regular rotation; and after the first inning is played, the turn commences with the player who stands on the list next to the one who lost the third hand.

Vacating Bases.

SEC. 20.—Players must take their bases in the order of striking; and when a fair ball is struck, and not caught flying, the first base must be vacated, as also the second and third bases, if they are occupied at the same time. Players may be put out upon any base under those circumstances, in the same manner as when running to the first base.

Players must Touch the Bases.

SEC. 21.—Players running bases must touch them, and so far as possible keep upon the direct line between them, and must touch them in the following order: first, second, third, and home; and if returning, must reverse this order; and should any player run three feet out of this line for the purpose of avoiding the ball in the hands of an adversary, he shall be declared out.

Catching the Ball.

SEC. 22.—Any player who shall intentionally prevent an adversary from catching or fielding the ball, shall be declared out.

Obstruction of Bases.

SEC. 23.—If the player is prevented from making a base by the intentional obstruction of an adversary, he shall be entitled to that base, and not be put out.

Ball Stopped by those not Engaged in the Play.

SEC. 24.—If an adversary stops the ball with his hat or cap, or if a ball be stopped by any person not engaged in the game, or if he takes it from the hands of any one not engaged in the game, no player can be put out unless the ball shall first have been settled in the hands of the pitcher.

SEC. 25.—If a ball from the stroke of a bat is held under any other circumstances than as enumerated in Section 22, and without having touched the ground more than once, the striker is out.

Two Hands Out.

SEC. 26.—If two hands are already out, no player running home at the time the ball is struck, can make a run to count in the score of the game if the striker is put out by a fair catch, by being touched between home and first base, or by the ball being held by an adversary at the first base before the striker reaches it.

SEC. 27.—An innings must be concluded at the time the third hand is put out.

How a Tie Game is Decided.

SEC. 28.—The game shall consist of nine innings to each side, when, should the number of runs be equal, the play shall be continued until a majority of runs upon an equal number of innings shall be declared, which shall conclude the game.

Match Games.

SEC. 29.—In playing all matches, nine players from each club shall constitute a full field, and they must have been regular members of the club which they represent, and of no other club either in or out of the National Association, for thirty days immediately prior to the match. Position of players and choice of innings shall be determined by captains previously appointed for that purpose by the respective clubs. In cases of illness or injury, positions of players and choice of innings shall be determined by captains previously appointed for that purpose by the respective clubs.

The Umpire.

SEC. 30.—The Umpire shall take care that the regulations respecting the ball, bats, bases, and the pitcher's and striker's positions are strictly observed. He shall be the judge of fair and unfair play; and shall determine all disputes and differences which may occur during the game. He shall take special care to declare all foul balls, balks, strikes, and balls immediately upon their occurrence, and when a player is put out, in what position and manner, unasked, and in a distinct and audible manner. He shall in every instance, before leaving the ground, declare the winning club, and shall record his decision in the book of the scores.

By Whom the Umpire is Selected.

SEC. 31.—In all matches the umpire shall be selected by the captains of the respective sides, and shall perform all the duties enumerated in Section 28, except recording the game, which shall be done by two scorers—one of whom shall be appointed by each of the contending clubs.

Betting on the Game.

SEC. 32.—No person engaged in a match, either as umpire, scorer, or player, shall be either directly or indirectly interested in any bet upon the game. Neither umpire, scorer, nor player shall be changed during a match unless with the consent of both parties, except for reasons of illness or injury, or for violations of this law; and then the umpire may dismiss any transgressor.

In Case of Rain or Darkness.

SEC. 33.—The umpire in any match shall determine when play shall be suspended; and if the game can not be concluded, it shall be decided by the last even innings, provided five innings have been played; and the party having the greatest number of runs shall be declared the winner.

Balls Knocked Outside of the Bounds.

SEC. 34.—Clubs may adopt such rules respecting balls knocked beyond, or outside of the bounds of the field, as the circumstances of the ground may demand; and these rules shall govern all matches played upon the ground, provided that they are distinctly made known to every player and umpire, previous to the commencement of the game.

Speaking with the Umpire.

SEC. 35.—No person shall be permitted to approach or to speak with the umpire, scorers, or players, or in any manner to interrupt or interfere during the progress of the game, unless by special request of the umpire.

Must be a Member.

SEC. 36.—No person shall be permitted to act as umpire or scorer in any match, unless he shall be a member of a base ball club governed by these rules.

Punctuality in Calling the Game.

SEC. 37.—Whenever a match shall have been determined upon between two clubs, play shall be called at the exact hour appointed; and should either party fail to produce their players within thirty minutes thereafter, the party so failing shall admit a defeat, and shall deliver the ball before leaving the ground; which ball must be received by the club who are ready to play, and the game shall be considered as won, and so counted in the list of matches played. And the winning club shall be entitled to a score of nine runs for any game so forfeited, unless the delinquent side fail to play on account of recent death of one of its members, and sufficient time has not elapsed to enable them to give their opponents due notice before arriving on the ground.

No Match Game Shall be Commenced in the Rain.

[New Section of December 13th, 1865.]

SEC. 38.—Any match game played by any club in contravention of the rules adopted by this Association, shall be considered as null and void, and shall not be counted in the list of match games won or lost, except a game be delayed by rain beyond the time appointed to commence the same. Any match game can be put off by mutual consent of the parties about engaging in the same. No match game shall be commenced in the rain.

Competent to Play.

[Known as 38 in Old Rules.]

SEC. 39.—No person who shall be in arrears to any other club, or who shall at any time receive compensation for his services as player, shall be competent to play in any match.

Striker Delaying the Game.

[Known as 39 in Old Rules.]

SEC. 40.—Should the striker stand at the bat without striking at good balls repeatedly pitched to him, for the apparent purpose of delaying the game, or of giving advantage to a player, the umpire, after warning him, shall call "One Strike," and if he persists in such action, "two" and "three" strikes. When three strikes are called, he shall be subject to the same rules as if he had struck at three fair balls.

Number of Games.

SEC. 41.—Every match hereafter made shall be decided by the best two games out of three, unless a single game shall be mutually agreed upon by the contesting clubs.

SEC. 59.—No person who shall be in arrears to any other club, or shall at any time receive compensation for his services as a player, shall be competent to play in any match. All players who play base ball for money, place, or emolument, shall be regarded as "Professional Players;" and no professional player shall take part in any match game. And any club giving any compensation to a player, or having to their knowledge a player in their nine playing in a match for compensation, shall be debarred from membership in the National Association; and they shall not be considered by any club belonging to this Association as a proper club to engage in a match with; and should any club so engage with them, they shall forfeit membership.

The Duties of Umpire.

The gentleman who accepts this important position should be a player perfectly familiar with every essential point of the game, and who will enforce rules with the strictest impartiality. If the umpire would, for the time, put aside individual bias, and render his decisions as if each player was to him a perfect stranger, there would be less cause for complaint on the part of interested friends, but also, as has frequently happened, from players themselves.

The umpire should not hold conversation with either the players or spectators during the game, and if he is

spoken to, his answer should be in a loud and distinct tone, for there are those who often attend matches, and who make it a practice to find fault with every act or decision of the umpire not in their favor. These persons call themselves friends of the players, but in my judgment, and in the judgment of many who take a deep interest to foster and promote the game, they are any thing but friends. The duty of an umpire, at best, is any thing but agreeable, but when he assumes it, he should discharge it, fearless of all outside influence. His decisions should be given in a loud and distinct tone of voice. When the batter refuses to strike at fair balls, the umpire should enforce the rule of Section 37, by calling—one strike—and if the batter persists in his course, then to call two, or three, as the case may be. It is the duty of every umpire to enforce this rule, and when the pitcher delivers such balls as the batsman can not possibly hit, he must apply the same rule to him, and call one, two, or three balls, as the case may be. The umpire should watch closely the movement of the pitcher, and see that both feet are in their proper position; also that his arm is not resting against his side, for if it is, the ball is more apt to be jerked instead of being pitched, as it should be. All foul balls taken on the fly, or bound, after striking a tree, building, or fence, unless an agreement to the contrary is made at the commencement of the match, the umpire will declare out. The same rule applies to fair balls coming from a tree or roof of a building, and taken on the fly. If the umpire should be convinced that either side was prolonging the game so that darkness would cause to them an advantage gained, which by fair manly play there was a probability of losing, he must decide the game by the previous even innings, or declare the game to be drawn.

5.

Defense and Offense.

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CHAPTER XIII.

FENCING.

WHAT can be more graceful or imposing than a man in the attitude of fencing, his eye keeping pace with his hand, and all his muscular power braced up and ready for the commencement of attack? Foot and eye and point are opposed. The expansion of the breast, the erect posture of the head and neck, the motion of the muscles of the thighs and legs, give to a man in any of these situations the most animating and pleasing effect, and by practice of them is acquired, better than by any other, grace and elasticity of movement. But independently of this, would it not be well for all officers, whether of the army, navy, or volunteers, to study how to use the swords which are suspended at their sides? They may, if they have not the opportunity for more, confine themselves to learning the ordinary sword exercises; but if they desire to be neat and quick swordsmen, and graceful in every movement, they should begin by a thorough course of practice with the foil before attempting to handle a more cumbrous weapon.

Fencing has indeed fallen very far from the high position which it held in the days of the great Italian and French martyrs, who cultivated it to a degree of perfection hardly conceivable by those who have not read their elaborate treatises, and studied the infinite variety of beautiful drawings by which they illustrated their precepts.

The practice of fencing is not only recommended now as one among many methods of giving grace and agility to the human frame, but it certainly is unsurpassed in efficacy for those objects, and besides this, it supplies a resource which may at any moment become valuable; so that its claims are still strong to hold a place in the programme of education of a finished gentleman. It possesses, moreover, quite an historic interest, and many believe that even an uninstructed eye would see in an encounter between two accomplished fencers a very high degree of beauty.

In this art it must be admitted the French excel those of other countries. There are various reasons assigned for this. Some attribute it to the agility and acknowledged power of rapid physical action possessed by this nation; by others it is ascribed to their natural vivacity and mental quickness. In my opinion, however, it arises from their great love for military and physical education. With them every regiment has its fencing-school. Indeed, in so important a light was the proper teaching of this art held, that Louis XIV. granted letters patent to a large number of eminent teachers, who alone were permitted to teach in Paris. When a vacancy occurred, no interest and no favor could enable an applicant to obtain this privilege. He was obliged, in order to get the appointment, to fence in public with six of those chosen teachers, and if by any one of them he was beaten by the majority of hits and two over, he was considered unqualified to teach in the capital.

Independent of this value as an art and accomplishment, fencing stands unrivaled as an exercise, and it is in this sense that I propose to treat of it. The most eminent French physicians have, in the most earnest manner, recommended it to the attention of the young. It is known

by *all* that muscular exertion is essential in perfecting the form of the body, and those exercises which require the employment of the greatest number of muscles are the most conducive to this end. Fencing causes fully as many muscles to act at the same time as any other athletic or bodily exercise. It will certainly promote the expansion of the chest, and improve respiration, whereby the functions of the most important organs of the body are more perfectly performed. It is likewise apparent that the attitudes and exertions of fencing are conducive to the manly forms and muscular energies of the human figure.

In regard to this beautiful exercise, the famous physician Sir Everard Home uses the following language: "Of all the different modes in which the body can be exercised, there is none in my judgment that is capable of giving strength and velocity as well as precision to the action of all the voluntary muscles of the body in an equal degree as the practice of fencing; and none more conducive to bodily health." Many similar extracts of letters from some of our ablest physicians could be given, but I think it unnecessary. It is enough to know that they all speak in terms equally recommendatory.

To avoid all danger in the lessons or in practice, the point of the foils should be covered with a batting composed of gutta-percha; strong wire masks should cover the face; a well padded glove should protect the hand; and the upper part of the body, at which alone the thrusts should be made, is protected by a strong jacket; the right side and collar should be of leather or canvas.*

* The figures which illustrate this chapter on Fencing, are all from photographs taken from experts in actual position. They are therefore perfectly correct to the minutest point.

Position and Movements.

Attitude.—Standing with heels closed, toes turned out, body erect on the hips, shoulders square, and eyes directly to the front. (Figure 1.)

First Position.—ONE.—Half face to the left, feet at right angles, heels together, right toe pointing directly to the front, shoulders back, chest out. (Figure 2.)

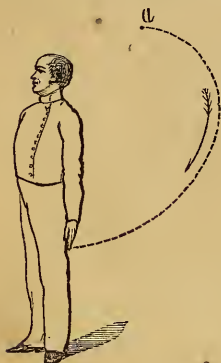


Fig. 1.

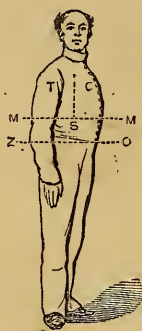


Fig. 2.



Fig. 3.

Second Position.—Two.—*On Guard.*—Move the right foot from sixteen to eighteen inches in front or in advance of the left heel; heels in direct line (Figure 3). The greater portion of the weight of body rests on left leg. Head erect, breast out, stomach in; foil in right hand, opposite the mark or right nipple of the breast. The right elbow a little above and in advance of the waist, the fore-arm and foil sloping upward—the point of the foil being about on a line with the right eye. The left arm gracefully curved and raised behind the head; hand open, but fingers together and slightly inclined (Figure 4) toward the wrist.

Third Motion.—*Advance.*—ONE.—By carrying the

right foot forward about the width of the guard, sixteen to eighteen inches. (But of course this varies with circumstances. A tall man will be apt to step longer than a short one.) On its reaching the ground, the left foot is brought up and takes its place. Position as in Figure 5.



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.

Fourth Motion.—Retreat.—The reverse of the previous movement is made. The left foot makes the first move, stepping to the rear about the same distance as the right

had stepped to the front (Figure 6), the right occupying its place, on its taking up its new position, the next moment. Care must be taken to keep the arms in their proper position, as in Figure 6.

Fifth Motion.—Advance by placing the right foot close to the left, as in Figure 7; then stepping the left foot forward the regular guard distance, and come in position on guard, as in Figure 4.

Sixth Motion.—Retreat by placing the left foot to the right, or the reverse from the former.

Seventh Motion.—Pass to the front by passing the right foot in advance of the left.

Eighth Motion.—Pass to the rear by passing the left foot to the rear of the right. Remember that at each stop the feet must come in the position of “on guard.”

Ninth Motion.—Taking the position of “on guard,” as in Figure 4, you extend by stretching both arms to their fullest extent, and throwing the weight of the body on the right leg (Figure 8); the left leg extended, and knee straight

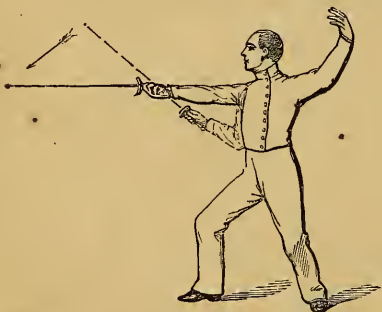


Fig. 8.

back, drawn in; chest out, and head erect. The left arm should be more extended and on a line with the right.

Tenth Motion.—Extend. Lunge out by first repeating the previous movement, then stepping out from thirty-three to thirty-six inches with the right foot—the left remaining fixed, with knee perfectly straight; left arm down

along the left side; elbow straight, palm of the hand to the front. The upper part of the body must be well set

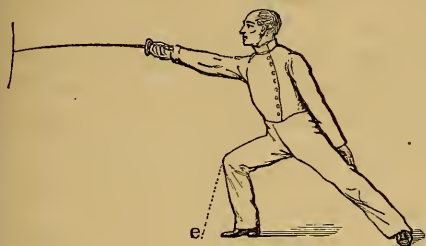


Fig. 9.

on the hips; head erect, right hand on a line with the right eye; fingers upward, as in Figure 9. The same movement in lunging out should be practiced at a placed four feet

from the floor. This will bring the arm in the position as in Figure 10.

Eleventh Motion.—Advance—extend—lunge out. This is simply a combination of the former exercises, which you should by this time be familiar with. Now retreat—extend—and lunge out.



Fig. 10.

Twelfth Motion.

—Advance by placing the right foot to the left—extend—lunge out; retreat by placing the left foot to the right—extend—lunge out.

Thirteenth Motion.—Pass to the front—extend—lunge out. The first movement the same as in the seventh exercise; the next as in the tenth. Pass to the rear, the right foot moving first. Extend—lunge out.

It is necessary that these movements should be fre-

quently practiced, as they give strength and flexibility to the muscles of the legs, and accustom the arms to the correct movement they make in fencing. It also gives prominence to the chest and balance to the body.

Fourteenth Motion.—Position on guard, as in Figure 4. Turn the wrist in *tierce*; fingers downward. The arm must be kept steady, the wrist only moving. Practice this a number of times. *Carte—tierce—carte—tierce.*

The Lunge in Carte.

In simple or straight thrust this is a very important movement, and is rather difficult to make properly, and is fatiguing to the beginner. I consider the first movements



Fig. 11.

in fencing to be the most trying to the learner, and he must not be discouraged if he fails to do them correctly at first—it is practice only that will give him this power. The lunge is that extension of body, as in Figure 11, which should accompany every attack. It is fully explained how it is made in the first exercises.

The Recover.

To return from the position of lunge to that of on guard must be done quickly. The left arm is thrown up to its

place; the right arm drawn in, and the left knee rebent, as in Figure 4. It is the quick, united action of this movement that enables you to recover from and avoid a thrust from an opponent if your own attack has failed.

The Lunge in Tierce.

Drop your point as close as possible under your opponent's blade, and lunge in tierce. The foil should be held with a firm grasp.

Lower Carte Thrust.

This is a simple straight lunge, but instead of the point of your foil touching the breast, it should fall as low as the waist, your hand slightly inclined to the left, your head looking over and outside the arm.

Parry Carte.

Strike your opponent's blade at the same instant; extend the arm, and lunge quick and straight.

Parry Tierce.

Strike your opponent's blade while engaged in tierce, and lunge quick and straight.

Second Thrust.

Your guard being in tierce, extend the arm and lunge straight in carte: the back part of the hand should be upward.

Simple Turn.

Make the feint as if to thrust in tierce under your opponent's blade, bringing it back quick, and lunging in carte; at the first motion you should extend the same movement from the other side of your opponent's blade, and lunging in tierce.

Double Turn.

Made precisely in the manner of the former, except you make three feints and follow it with the lunge. The lunge is made, first, in *carte*, second, in *tierce*, from both sides of your opponent's blade.

Counter Parry Tierce.

Pass your blade quickly under that of your opponent, and strike it strong, following it instantly by the lunge.

Counter Parry Carte.

The same as the last, except from the opposite engagement.

Duple.

Pass your blade twice around the opponent's point, taking care to make your circle as small as possible, then lunge straight and quick; the same movement from the opposite engagement.

Duple, with Simple Turn.

The first movement as the previous, then simple turn, then the lunge; the same movement from the opposite engagement.

Duple with Double Turn.

First movement the same, followed by double turn and the lunge. Repeat from the opposite engagement.

Parry Carte Dicossa.

On guard in *carte*, strike your opponent's blade and lunge over the arm; in *tierce* the same, except from the opposite engagement.

Flanconade.

Standing on guard, by a circular movement and strong

grasp of the foil you get to the opposite side of your opponent's blade (Figure 12), throwing his out of the line of thrust, upon the instant of which you lunge; the same movement from the opposite engagement.

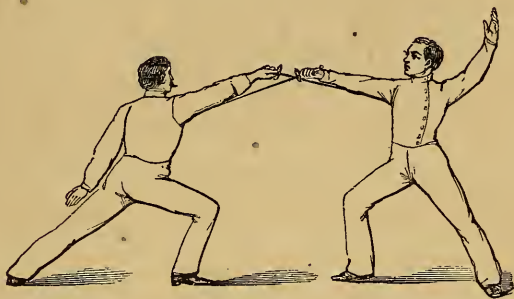


Fig. 12.

Simple Turn, with Duple.

These are the same movements that you have previously made, only reversed. I give them in this form in order that you may have good practice. This movement is to be made from each side of your opponent's blade, or opposite engage.

Double Turn, with Duple.

You have performed the movement of duple with double turn. Now just reverse it as above, and go through the same motions from each side of your opponent's blade.

Coupé

Over the point of your opponent's blade, and lunge quick and straight. The same from the opposite engage.

Coupé Dicosha

Over and under the blade, followed by the lunge. The same movement from the opposite engage.

Coupé.

Coupé—one, two—at the third feint you make the lunge.

These simple exercises should be frequently practiced before passing to more difficult ones; and when you have attained some proficiency in them, you may commence those of attack and defense, or

The Engage.

Standing on guard you engage, or join blades on the inside (Figure 13), although there are occasions on which

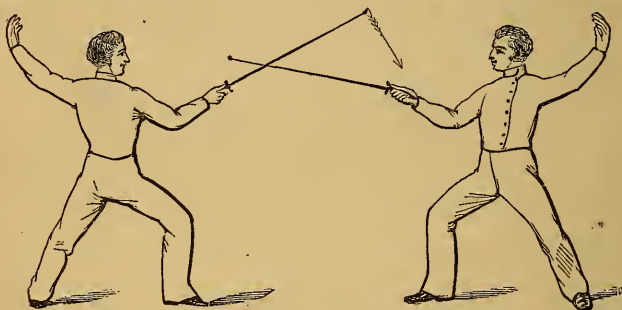


Fig. 13.

it is advisable to engage on the outside. These are called *carte* and *tierce*. You will readily perceive that there are two lines of attack open to you, the line inside and the line outside the blade; but these may be subdivided into inside above the hand, and inside under the hand, and the same for outside. This gives you four lines of attack, or to speak more plainly, gives four openings through which an adversary may be assailed. Now to protect each of these assailable points are four defensive movements, called

Parries.

The first and most natural parry is that of *carte* (Figure 14), and is formed in this way: When your opponent

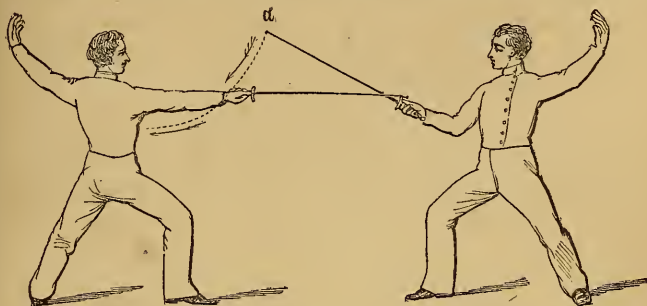


Fig. 14.

makes a straight thrust or lunge, your right hand is moved three or four inches across the body on the inside your hand, being neither lowered nor raised, and your foil being kept on the same slope as in the guard (as in Plate 3, Fig-

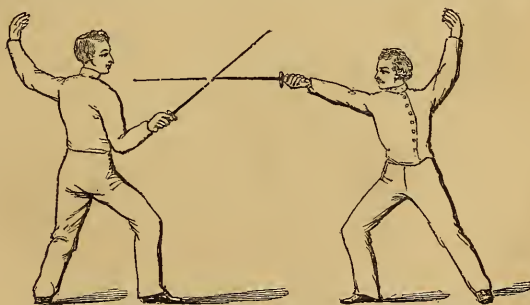


Fig. 15.

ure 4). This parry protects your body on the inside above the hand—but (and here comes the most important part

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in fencing) the very movement which has protected and guarded your body on one side, has exposed it on the other, and this is the case with all the simple parries. Now if your opponent took the advantage of the exposed part outside and above the hand, your defense would be the parry of

Tierce.

It is made by turning the hand with the nails downward (Figure 15), and crossing your foil to the opposite side about six or eight inches, taking care that the hand and point are at the same elevation as before; this will guard this opening or the lunge in tierce over the hand. If, however, the attack had been made under instead of over the hand, then the proper parry would have been second.

Second.

This is made by turning the hand in the same position in which it was turned in tierce, only the point of the foil slopes (Figure 16) as much downward as in tierce it

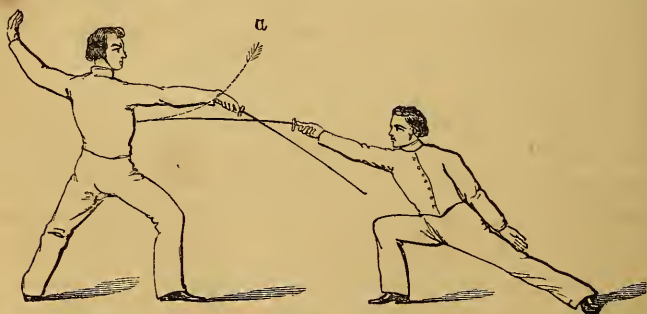


Fig. 16.

did upward, the direction and distance for the hand to traverse being about the same. But suppose the attack

had been made at none of these, but at the inside under the hand—then the correct and proper parry would have been

Demi-Circle.

This, as the name expresses, is a close circle following the blade of your opponent and making the parry. Next comes the parry of

Prime.

In this parry the hand is raised as high as the forehead, so that the fencer can see his opponent's face under his wrist (Figure 17); the blade of the foil is almost



Fig. 17.

horizontal, the point inclined toward the floor or ground. As this parry exposes the right side of the body to your opponent's foil, it is well to disengage as quick as possible, and deliver a rapid coupé thrust over the point of his foil—this you should do in order to anticipate or balk him before he can bring his foil round to the exposed part and thrust. If you make this movement properly, his point will be thrown out of the line of your body, so that should he attempt to make the lunge, it would not be sure. This parry is practiced, and has been found quite effectual with

fencers of short stature, particularly if they are quick and active, as they often touch by getting in their blade under their opponent's arm, after they have parried his thrust.

Octave.

In this parry the hand is held as in *carte*; the hilt of the foil is kept lower than that of the opponent; the blade should be almost horizontal (Figure 18), the point being only slightly lower than the hilt, as in Plate 6, Figure 4, and directed toward the body of the opponent. This is an extremely useful parry, in case you should miss the parry of *demi-circle*, as there is but a very short distance for the point to traverse, and it most always meets the blade of the opponent before the point touches. Moreover it brings your point so near the opponent's body that he will not venture to make another thrust or lunge until he has removed the foil. I have now given and enumerated the uses of the simple parries. We now come to what is termed the

Contre-Parries.

I have shown that a man or person standing foil in hand in the position on guard is exposed in four distinct places to thrusts or lunges from an opponent within distance. I think I have also shown that he has a defense or parry for each of those exposed parts; but if a person has but one defense for each assailable part, then his opponent, knowing possibly beforehand what the defense will be, or what parry must be made, would be prepared beforehand to deceive him; but if he has a second defense for each part, then it is almost impossible for your opponent to tell what defense or parry will be made until his attack, false or real, is begun. As each of the simple parries is calculated or framed to guard only one opening, it was found

desirable that the contre-parries should be of a more comprehensive character; they are therefore devised and practiced so that each is capable of protecting the entire front. It is evident that this object could not be attained without the sacrifice of quickness, in consequence of a larger space being traversed by the blade, and therefore more time is occupied with a contre than a simple parry. If you know one contre-parry perfect, you virtually know them all, as they are all made or formed on the same plan: they are all full circles made in and from the position of hand and direction of foil of the different simple parries, or more plainly speaking, each simple parry has a contre-parry. There are, therefore, four simple and four contre-parries, which are named as follows:

- | | |
|----------------------|----------------------------|
| 1. Simple in Carte. | 5. Counter in Carte. |
| 2. Simple in Tierce. | 6. Counter in Tierce. |
| 3. Second. | 7. Counter in Second. |
| 4. Demi-Circle. | 8. Counter in Demi-Circle. |

I have said that a counter-parry is a full circle in the position of hand and direction of blade of its simple. Thus the counter-carte is made by retaining the hand in the position of carte, while the foil describes a circle descending on the inside and returning by the outside to the place of its departure. So with all the others—the foil invariably following the direction of the simple parry of which it is the counter. These complete the entire perfect system of defenses. We now come to the most important, but of the opposite nature, namely, the modes of attack.

Attacks.

We will begin with the most simple of them. I shall suppose two opponents standing on guard, as in Figure 4, and within lunging distance of each other. Now the most

simple movement the attacking party could possibly make would be

The Straight Thrust,

Either to the outside or inside, according to his line of engagement. I have, in describing the lunge in the first exercises, fully described the straight thrust. It is, as you by this time know, but a lunge in a direct line, taking care, however, to feel firmly the blade of your opponent, but not to press down or lean on it during the delivering of the thrust. Next in order comes

The Disengagement.

You make this attack by dropping the point of the foil beneath the opponent's blade, and raising it on the opposite side; at the same instant extend the arm, and make the lunge quick and straight. You may if you please extend with the first motion. This is apt to throw the opponent off his guard.

Coupé—One—Two.

This is what may be called a double disengagement, the first movement being but a feint or false attack, in order to induce the opponent to form or make a parry to cover the part threatened, for the covering of one part of the body exposes the opposite. The second disengagement is made for the purpose of taking advantage of this exposure. The arm should be extended very slightly on the first, and then wholly on the second, to be immediately followed by the lunge.

The Parry Carte Thrust.

This is another mode of attack, standing on guard, as in Figure 4, the blades touching. Now if you made the attempt to deliver a straight thrust, there would be more

or less danger of your falling upon the point of your opponent's foil. This danger you avoid by first giving a strike or beat on his blade the instant preceding your extension of arm, and followed immediately by the lunge.

The Parry and Disengagement.

The parry here is made as a feint, and is intended to induce the opponent to return to the place he occupied when the parry or beat was made. You then immediately pass to the opposite side of his blade, in the manner I have so fully described in the disengagement and first exercises. You will observe that all the movements that I have so far given pass under the opponent's blade. There are, however, certain situations in assault fencing (as a fencing bout is called), when an adversary is more easily assailable over the point of the foil than under the blade, and the surest way for this to be made is by the coupé.

Coupé or Cut Over the Point.

This is made by the action of the hand only, and without drawing back the arm in the least: the point of the foil by a quick movement is raised and brought down on the opposite side of the adversary's blade, the arm being extended during its fall to the horizontal position, on attaining which the lunge is instantly made.

Parry Duple or Double

Is made in this form: If you were to threaten your opponent by a disengagement to the outside, and if, instead of tierce, he parried counter-carte, the double is then made by you making a second disengagement to the same side as the first; for it will be found that his counter-carte has replaced the blades in the same positions they occupied

previous to your disengagement. You will then have a clear opening, and may finish the attack by the lunge, as all the counter-parries are on the same plan and principle. So also are every one of the doubles. Of course you understand that you must make all the movements of the double as close as possible, and without allowing your opponent's blade to touch yours.

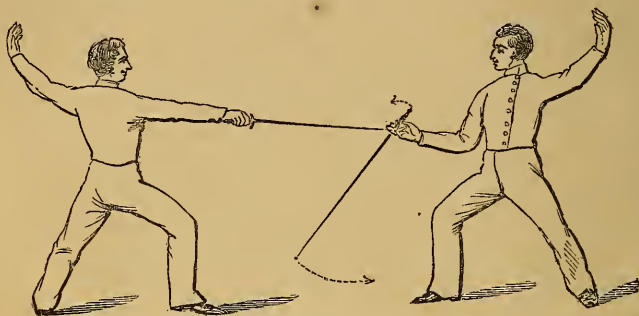


Fig. 18.

Advice to Beginners.

I would recommend to all beginners that they practice well the first exercises, and next the feints and parries. This may be done with a friend or fellow-student in the following manner: Let one stand entirely upon the defensive, while the other assumes the offensive, and attacks with all the skill of which he is master—the other of course defending with all his parries. This you will find excellent practice, as it accustoms you to think for yourself, gradually having thus for the time being but one set of movements to think about. You will therefore be enabled to make them boldly, without having to encounter unknown movements from your opponent. It also enables you to see the extent of his resources, both for attack and

defense. This practice should be taken with first one acting upon the defensive, then the other, changing every ten or fifteen minutes. When you are able to both attack and defend with some presence of mind, you may then begin the assault.

The Assault.

That is, you may encounter an adversary, to attack or defend as occasion presents, for you are then left to your own resources entirely.*

Advice for Assault.

1. Two skillful fencers fight more with their heads than their hands.

2. If you are much inferior, make no long assaults, but watch closely the movements of your opponent.

3. Endeavor both to discover your adversary's designs and to conceal your own.

4. Let your movements be made as much within the line of your opponent's body as possible.

5. Do nothing that is useless. Every movement should tend to your advantage.

6. The smaller you make the movements with your foil, the quicker will the point touch your opponent's body.

7. Do not endeavor to give any thrusts while in the position of lunge. Recover on guard first.

8. If your opponent drops his foil in consequence of a strong parry of yours, you should immediately pick it up and present to him.

9. Always join blades (if possible) previously to another attack after a hit is given.

CHAPTER XIV.

B R O A D S W O R D .

THE principal distinction between the Broadsword and Foil is, that the latter is formed only for thrusting, while the former is adapted for cutting also ; indeed, the greater majority of those who use the broadsword are, in my opinion, too apt to neglect the use of the point, and to give their attention almost exclusively to the cuts.

First Position.—Perfectly erect ; feet at right angles, heels close ; arms clasped behind the back, right palm supporting the left elbow, left hand grasping the right arm just above the elbow. From this position bend both knees and sink down as far as possible. It will not be far at first, but practice will make it easy.

Second Position.—Place the right foot quickly in front from fourteen to sixteen inches ; be sure to maintain a perfect balance on the left foot, that you may place the right either before or behind without losing the balance.

Third Position.—This consists in stepping well forward with the right foot, until the left knee is quite straight, and the right knee exactly perpendicularly placed over the right foot. Great care must be taken to keep the heels exactly in the same line, and the body perfectly upright. Position as in Figure 1. The learner should remember to perform the different movements by word of command, receiving the first part of the word as a caution, and not to move until the last syllable is uttered.

The sword is now taken in hand, and the cuts in practice made as follows: The interior lines of the target represent the cuts; cut *one* being directed from No. 1 diagonally through the target, coming out at 4; but *two* is the same, only from left to right; *three* is made upward diag-

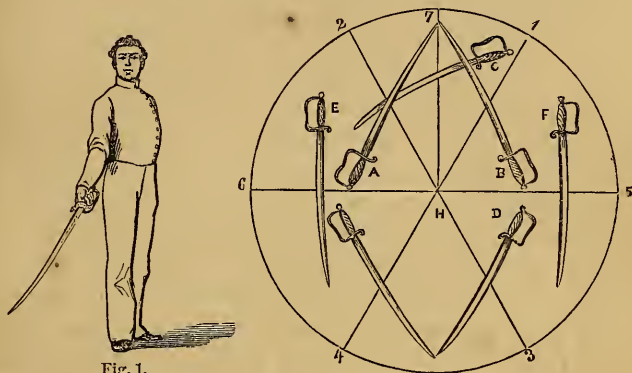


Fig. 1.

onally, and *four* is the same, only in the opposite direction; but *five* is horizontally through the target, from right to left, and *six* from left to right; *seven* is perpendicularly downward. Great care must be taken that all the cuts are fairly given with the edge. The swords drawn on the target represent the guards.

Cuts and Guards.

Position as in Figure 2. Cut from 1 to 4 when the point has cleared the target. Turn the wrist, and bring the sword in the position seen in Figure 3. Now cut from 2 to 3. Continue the movement, and turn the wrist so that the point of the sword comes below the right hip, the edge toward the ground. Next cut through the target diagonally, or from 3 to 2. Let the sword sweep onward so

that it rests with the edge down, and point below the left hip. Now cut from 4 to 1, bringing the sword around until its point is over the right shoulder. At the word *five*



Fig. 2.



Fig. 3.



Fig. 4.

make a horizontal cut from 5 to 6, and sweep the sword around until it rests on the left shoulder with its edge to the left. The next cut will be from 6 to 5, or the reverse



Fig. 5.

of the former. Let the sword sweep over the head with its edge upward. Now make a downward stroke until the sword reaches the centre of the target. Here stop and wait for the word.

Thrusts.

Position as in Figure 4. Make a pause, then quickly thrust forward toward the centre of the target, as in Figure 5.

Second Movement.—Turn the wrist so that the edge comes upward, and thrust to the centre of the target.

Guards.

The guards should be learned from the target, by placing the sword in precisely the same position as there shown. They come in the following order :

A. First Guard.—B. Second Guard.—C. Third Guard.—D. Fourth Guard.—E. Fifth Guard.—F. Sixth Guard.—G. Seventh Guard.—H, in the target, is where the thrusts should come.



Fig. 6.



Fig. 7.

Parry Thrusts.

The parry of a thrust is executed with the back of the sword. Hold the sword perpendicularly, with its edge to the right, and its hilt about the height of and close to the right shoulder, as in Figure 6 ; then by a sweep from left to right any thrust within its sweep is thrown wide of the

body. It must be remembered the parries are made with the wrist and not with the arm, which should not move.

Hanging Guard.

This is a very effectual position, as it keeps the body well protected under the sword, and at the same time leaves you in a good position to cut or thrust. The hand should be over the right foot, and as high as the head. The edge of the sword is upward, and the point downward, the point to the left. This position will be found very fatiguing at first, but this is soon overcome. There is perhaps no attitude which gives greater advantages.

Inside Guard.

Stand as in Figure 7, the wrist nearly as low as the waist. The hand must be exactly over the right foot, the sword's point about as high as the eyes; the edge turned inward as in the figure.

Outside Guard.

This guard is formed in the same manner as the other, with the exception that the edge of the sword is turned well outward. For those guards the word is given: Inside Guard!—Outside Guard!—Guard!

Attack and Defense.

The beginner, having learned thus far, will now combine the three movements of Striking or Cutting, Thrusting, and Guarding. This should be done in the following order:

1. Cut one.—2. First Guard.—3. Cut Two.—4. Second Guard.—5. Cut Three.—6. Third Guard.—7. Cut Four.—8. Fourth Guard.—9. Cut Five.—10. Fifth Guard.—11. Cut Six.—12. Sixth Guard.—13. Cut Seven.—14. Seventh Guard.—15. Inside Guard.—16. Outside Guard.—

17. Guard.—18. Prepare for thrust in first position; repulse as in Figure 8.—19. Second Thrust: receive it in first position. Repulse as in Figure 9.

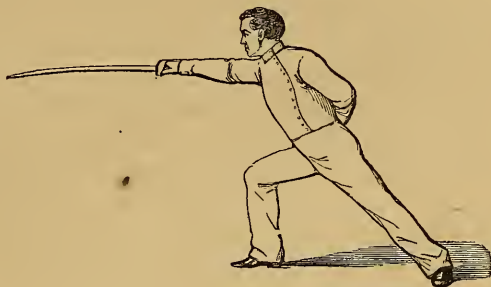


Fig. 8.

The beginner must remember that in all the exercises the cuts and thrusts should be given from the position of "on guard." Figure 10 shows the seventh cut and guard.

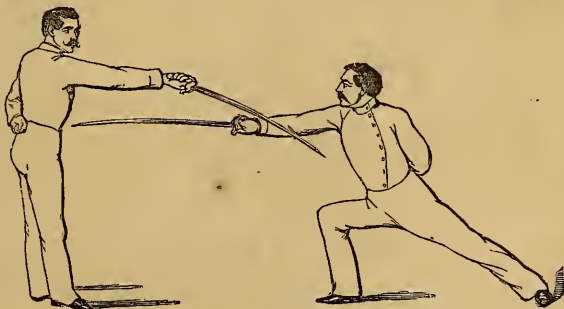


Fig. 9.

These exercises should always be practiced at first with the single stick or wooden basket-hilted sword, in order to avoid the dangers which would be inevitable if the sword were used. The stick can be an imitation of sword, the only difference it being a little lighter.

Practices.

Positions as in Figure 11. The practice with broadsword of cuts, guards, thrusts, etc., you have by this time attained; you also have some confidence in the use of the weapon. Now try with an opponent, and go through the same exercises, each taking the attack and defense in turn. Both must be provided with a stout wire mask, which defends the face and part of the neck; also over the head, in order to guard against the seventh cut. Never practice without the masks, as neither party would otherwise be able to cut or thrust with proper confidence.



Fig. 10.

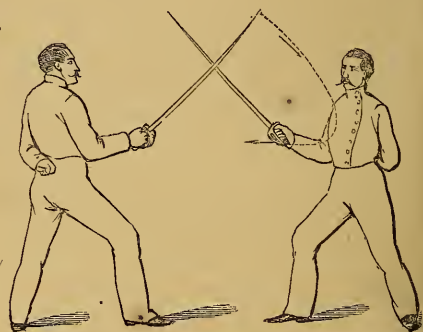


Fig. 11.

A good practice at first is for the opponents to stand opposite each other at just such a distance that when perfectly erect each can touch the hilt of his adversary's sword with the point of his own. At the word, No. 1 will thrust, No. 2 guard, and the reverse alternately. Practice all the motions with great care in this form, and when you have them to some perfection you can thrust and guard, by springing forward to thrust, and back to guard.

This should be continued for some time, and at each practice more rapidly. If No. 1 is quick and active upon his feet, and No. 2 should cut at the leg, it would be proper for No. 1 not to oppose the cut by the guard, but to draw back the leg quickly, and cut six or seven, at the neck or head, as in Figure 12.



Fig. 12.

When two persons engage without following any word of command, but cut, thrust, and guard as best they can, both take their position on guard as in Figure 11, because from this they can either advance or retreat as they choose, or spring in or out with equal ease. With good active swordsmen it is often a feature to put the right leg more in advance than it should be, in order to induce the adversary to make a cut at it. When he does so, the leg is drawn back quickly, the cut passes harmless, and the striker receives from his opponent a cut on head, neck, or shoulders.

Forte and Feeble.

One-half the sword-blade next the hilt is called the *Forte*, from the fact of it being the strongest place on which the cut of an adversary can be received. Always guard and parry with the "*Forte*" of your sword, for if you try to guard a cut with the *Feeble*, which is the weak part of the blade, your guard will perhaps be forced, and the cut take effect.

Words of Advice.

Remember that the great point in this exercise, as in fencing with the foil, is to gain time. Endeavor, therefore, to advance your point nearer your adversary than his is to you.

Never look at your own sword, but watch the eye and sword-wrist of your opponent.

Always spring back to the proper position after delivering a cut or thrust.

Begin the assault at a distance, so that neither party can complain of being taken by surprise.

Keep the line of direction carefully, or you will leave an open space for the adversary to cut or thrust.

Last, and most important: *don't lose your temper.*

CHAPTER XV.

SALUTES.

THE "Salute" with foil, if the movements are correct, and done with time and precision, exhibits to the spectator much grace, skill, and beauty.



Fig. 1.

Fig. 2.

Fig. 3.

No. 1 and 2 will take their positions opposite each other, nine feet apart, both standing as in Figure 1, each looking at the other. Both will raise the right hand to the head, and bring it as in Figure 2. Bring the foil quick up over the head, and salute first to the left. The foil will next make a circle around the head, and salute to the right, as in Figure 3. Now bring it in front, and come on guard, as in Figure 4 of Fencing. No. 2 will take the position we see in Figure 4.

No. 1 will now lunge out, the point of his foil touching No. 2's breast. No. 2 will raise his foil on guard at the same time, stamping the right foot. No. 1 will lunge in



Fig. 4.



Fig. 5.



Fig. 6.



Fig. 7.

simple or straight thrust, No. 2 striking No. 1's blade, and holding for five seconds the positions seen in Figures 4-5. Six thrusts and the same number of parries are made.

The thrusts are the first six in the School of Fencing; when these are gone through, each will resume the position of Figure 3, and go through the same motions as at the commencement.

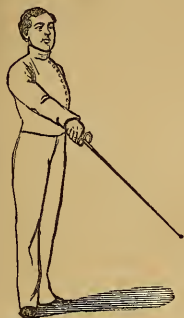


Fig. 8.

Now No. 2 will lunge at No. 1, going through the same motions, only No. 2 lunges, while No. 1 parries. At the conclusion of the sixth lunge, salute left and right, and bring the hand as in Figure 7, dropping the hand as in Figure 8, which concludes the salute.

CHAPTER XVI.

SPARRING OR BOXING.

THIS manly exercise has no necessary connection with the brutal and disgusting exhibitions of the "Prize Ring." An accomplished sparrer is, as such, no more a vulgar bruiser than an elegant penman is a forger or counterfeiter, or a clever gymnast, who can climb a ladder "hand over hand," is a burglar. I treat this subject simply as a physical exercise: one which more than almost any other develops and brings into play the best qualities of our compound nature—quickness of perception in the mind, and quickness of action in the body. Sparring is in physical exercise what Chess is in sedentary games. Some one has said that the man who can play a good game of chess has all the mental requisites necessary for a great general. I say that the man who can spar well has attained the highest point of physical development. If he can do this, he can do any thing which lies within the compass of a well trained body. Good sparring requires the simultaneous action of almost every organ. The eye must be alert to detect and even anticipate the movements of the opponent. Every nerve and muscle, from those of the remotest extremities to those which lie close to the citadel of life, are brought into simultaneous action at the command of the brain. Cut off a great toe or a thumb, and a man could never spar well. A good sparrer must have good lungs and a good heart, good legs and good arms, good hands and good feet, and moreover a good temper.

I urge the study and practice of this art upon the highest sanitary, æsthetic, and moral grounds. Of its sanitary benefits I need hardly speak; all that I have said heretofore respecting the healthfulness of athletic exercises applies to this. As to its æsthetic recommendations, what more graceful sight can be presented than that of two *gentlemen* in the attitude of sparring? Their eyes keep pace with their hands; every nerve and muscle is braced to its utmost tension; the whole man, body and soul, is alert for offense or defense; to give a blow at the adversary, and to ward off the blow which he may give. Now physical-grace consists wholly and absolutely in the most free exercise of the body. Dancing is graceful just in the degree in which the body moves naturally. Fencing is graceful, and in a higher degree, because it calls into play more mental power. Sparring is graceful beyond either, because it demands all the body and more of the mind. A person may dance well while his thoughts are far from the ball-room. The body can dance without the employment of the mind. A person can fence well without the use of his eyes. I have known some *maîtres d'armes* whom, blindfold them and put a foil in their hands, it would be hard to hit. But I think that no man can spar at all without the exercise of eyes, body, and limbs. As to moral requisites, no man can spar well unless he has his temper in perfect control. A man may indeed fight fiercely—kick and gouge when maddened into a wild beast. But I do not speak of such brutal exhibitions. I speak only of sparring, an exercise which any gentleman may take, with the assurance that it will be of physical benefit, and can produce no injury to him or his opponent—for the blow with the gloved hand, no matter how well delivered, can do no harm.

Every gentleman should learn to spar. I will go far-

ther, and say that every body should also be taught this graceful and healthful exercise. I see no reason why a gentleman and lady should not spar together. The greater size and strength of the one would be balanced by the superior quickness and alertness of the other. I do not find that in waltz or polka, in the Lanciers or the German, gentlemen outdance ladies; and I greatly doubt whether they would be able to outspar them. At any rate, I can find no good reason why so magnificent a branch of physical training as sparring should by implication ever be abandoned to the vulgar brutes who, under the name of "prize-fighters," disgrace human nature.



Fig. 1.



One.

Two.

Fig. 2.

First Position.

Place the left foot from sixteen to eighteen inches in advance of the right, the feet forming something less than a right angle; the right heel on a line with the left; the body well set on the hips, with its weight mostly resting

on the right leg; the left and right arms in the position as seen in Figure 1.

Exercise:—First Motion.

Two persons to stand in position as in Figure 2. (I will mark them One and Two.) No. One will strike the left hand straight at the head of No. Two; this will be stopped or guarded by Two with the right fore-arm or wrist. Repeat this a number of times, slowly at first, but after you improve in hitting and stopping, then increase the quickness. No. Two, in striking with the left hand, must be careful to keep the elbow close to the body, and at the instant of striking, throw the weight of the body on the left leg, bending the knee slightly, and extending the right leg as much as possible. Remember that in this, the first of the exercises, both must keep their positions; that is, they must not move out of distance. This is simply practice for the arms, or what is called the "hitting and stopping" exercise. The action upon the feet is taken when the beginner is farther advanced. Now alternate the first motion in this form: No. One, strike—No. Two, stop; then No. Two strike, No. One stop: slowly and carefully at first. In hitting, reach well forward in order to touch the object; and in stopping, throw the greater portion of the weight on the right leg.

Exercise:—Second Motion.

Standing in the first position, No. One leads off with the left, quickly followed with the right—both hits aimed at the head, which are stopped by No. Two, first with the right arm, then with the left. This motion requires considerable practice in consequence of the difficulty of hitting and stopping well with the right hand. Now alternately:

first No. One leading off, No. Two stopping, then No. Two leading, and No. One stopping. Thus you will observe you learn to stop every hit from your opponent that you make at him.

Third Exercise.

Standing in first position, No. One will make three straight hits at the head of No. Two, first left, then right and left. No. Two must stop with right, left and right. Now alternately, No. One leading, No. Two stopping. It should be understood that in every case in the simple exercise No. One is to lead first. This prevents any mistakes.

Fourth Exercise.

Standing in first position, No. One will strike the left at

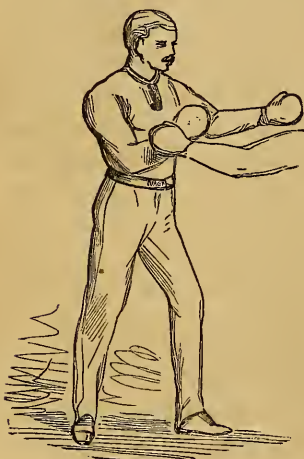


Fig. 3.

the head, and the right at the body, the glove touching the guard above the hips; No. Two will stop the left at the head, as all the previous left hand hits, and stop the right by throwing the left arm down, catching the hit upon the large part of the arm near the elbow, as in Figure 2. In stopping a body blow the muscles must be strongly set, the arm well bent, and the hand inclining toward the chin. Now alternately.

Fifth Exercise.

Standing in first position, No. One will hit—the left and

right at the head, then the left at the body. No. Two will stop left and right at head in the same manner as in the second exercise. Then throw the right arm well across the body, and catch the hit on the strong part of the arm. Bear in mind not to relax the muscles, for in that case your own arm will come against your body. The left hand hit at the body from an opponent generally comes near the pit of the stomach. It is therefore necessary, in order to stop it fair while only exercising, to bring the right arm well over the head, inclining toward the left shoulder. In an active set-to you evade this hit by springing back; but it is better that you should practice well how to stop it, in case, when sparring, there is not room enough to jump back. Now alternately, in one—two—three order.

Sixth Exercise.

Standing in first position, No. One will hit at the head of No. Two, without regard to the number of strikes. This is a very difficult exercise for the stopper; but with some practice he will be enabled not only to catch the action of the opponent's eye, but also the movements of his shoulder and hand. The hits should be made in the order of one—two—three—four—five, in rapid and quick succession, provided No. Two has had sufficient practice to stop well; if not, commence slowly. The arms of the striker should be extended to their full length at every hit, and No. Two should guard close and sure. Now reverse the exercise by letting No. Two hit, and No. One stop.

Seventh Exercise.

Taking the first position, No. Two will for the first time lead off—the left at the head. The instant No. One stops

the hit, he must strike with his left, getting it back instantly, to stop the body blow from No. Two's right hand. Next change, No. One leading off. This should be practiced with great care and caution. After this a fourth hit is added: starting from your left stop. You have stopped your opponent's right at the body; now straighten your left quick, and strike at the head. These motions must be done in the following order: *First*, left at head; stop left at head. *Second*, right at body; stop left at head; alternately in leading off.

Eighth Exercise:—Simultaneous Motion.

Standing as in first position, you will both now practice what is termed the "counter hit," which, in the opinion of the best boxers, is the most effectual hit in sparring. It is not only troublesome to learn in exercise, but difficult to execute in practice. Both standing within distance, No. One will call—*one*, and at the same instant strike with the left hand at the head of No. Two, taking care to guard well his own from the left of No. Two. The arms of both must move together, hitting and stopping at the same time. This requires much practice before it can be brought to any perfection. The boxer who can counter well will always make a fine set-to with any expert sparrer.

I might multiply the number of motions for exercise, but I think those already given will suffice. The manner of making the "cross counter," "double hit," etc., will be fully explained hereafter.

It is now presumed that you have taken sufficient practice with the arms in hitting and stopping, to have some confidence in being able to hit with precision, and stop with the same amount of judgment; if so, we will advance to the next exercise, which is

First Exercise upon the Feet.

Standing in the first position, (1) raise yourself up on the ball of your feet, retaining a perfect balance of the body. (2.) The same exercise, except when you raise the heels from the floor, strike out straight with the left hand. Be careful the balance of the body is not lost by overhitting. (3.) The same as the preceding, except as you come back to the first position, you raise the right or guard hand as in the act of stopping; the first motion of raising on the toes or fore part of the foot, and the straight hit forward should be long. (4.) Standing in first position, you turn on the right heel, facing either to the right or left. Care must be taken that the feet are in the proper position which ever way the body faces. If the toe of the left foot is on a direct line with the left hand, it is correct. (5.) In the same position you raise the heels slightly from the floor and spring to the rear; then to the front; again to the rear, and so on. Practice will enable you to jump from six to nine feet. I know one gentleman who can spring with great ease the latter distance. You must not forget that in this exercise the arms should be kept in their proper position for hitting or guarding, and that when you alight you do so with a perfect balance of the body.

How to Avoid being Hit without Guarding.

This can be done either by the backward spring, or by dodging to the right, left, or ducking.

Manœuvring.

By "manœuvring" is meant any movement by which one gains an advantage over the other. The sparrer who is remarkably quick and active upon his feet, generally

outmanœuvres one who is slow, although the latter may be considered a superior boxer. Quickness now is one of the principal arts of sparring.

Feints.

These are movements made in order to deceive your opponent. You try, if possible, to make him believe you are going to hit when you are not, or you feint at one point and strike at another. This you do that he may guard the former, and leave the latter exposed. A feint is often made by a quick movement of the eye, or by a sudden action of the feet; but the most perfect executed feints are performed by the arms in the following manner: Standing within distance, you start the left hand at your opponent's head, and as it is on its way, for an instant hold it, and then strike the real blow. Another way is to feint at the face and drop it on the body, or feint at the body and reach the face, or feint with the left at the head, and drop the right on the body, or the reverse. It is quite unnecessary for me to enumerate all the feints, for they can be made with either hand as often as the sparrer pleases, and at any part of the body, or at the face.

Now assuming that you have gone through the motions as directed, at least six different times, you should be capable to practice the art of sparring, or a

Set-to.

You now put into practice all that you have acquired in the preceding exercises. The eyes, arms, and legs move or act offensively or defensively, as the case may be. The whole object is to touch your opponent as often as possible, and to prevent him from touching you. In order to do this you must watch constantly his eye. This will enable

you to detect any movement of the shoulders, for your eyes take in all those parts. Care must be taken that the distance is exact, so that when you hit, the blow will either touch or be stopped. A good sparrer seldom, if ever, strikes when out of distance, except it is done as a feint, or for the purpose of drawing a return hit from the opponent, that he may get an opportunity of putting in the second with more effect.

The first set-to is almost always difficult. You can not well discover each other's intentions, and consequently hardly know in what way to guard or parry the hits. But with a little practice, it will become more easy than the first exercise. The quickness of the eye will be improved. The action with the arms, and activity upon the feet, together with increase of strength, all combine to give ease and grace to the sparrer. At the commencement of the practice I would advise you to use only those hits that you have learned in the first exercises. When within distance, pay strict attention to the guard, so that your opponent may not touch you if he strikes; and when you are not in the act of hitting or stopping, you should keep the arms in motion, but not out of their position. This tends to give them quickness, and enables you to hit when least expected; for your opponent may mistake one of those arm movements for a natural hit. If the arms are kept perfectly still, then there is little trouble to detect when a hit is about to be made. By manœuvring and the quick movement of the arms and feet, you so confuse him that he can not tell when or where you will strike.

Be careful, when a hit is made at you, not to shut your eyes. You must constantly look in the eye of your opponent. When you make a hit, do it with quickness, precision and full reach, holding the head well back, but

throwing forward the left shoulder. Hitting short only exposes the striker to quick returns from his opponent, and it is apt to be said of him, as it has been of many others, that he is "shoulder-bound." There is really no such thing as being "shoulder-bound." It is nothing but a habit the beginner falls into at the commencement of the exercise, but when once acquired takes time to remove.

Short hits should only be used as feints, first movement for the double hit, drawing out, or to keep your opponent from closing. In striking, the arm must not be drawn back beyond the side, except in what is termed "half-arm hitting." If the arm is drawn too far back in "out-sparring," you show your opponent your intention, and he will be prepared to stop, and perhaps counter you.

If you practice well the exercise, it will enable you in a very short time to hit quick and hard blows, without drawing the elbow behind the line of the back. When you are sparring with one who stops you with little effort at straight hitting, you must take action on the feet, springing to the right and left, in and out. These movements may possibly draw him out, in which case you can suddenly stand and pop him as he comes in.

In leading off, should your opponent bend back so that it would appear hardly probable for him to again regain his position, or spring out of distance, follow him up quickly, and the advantage is all yours. Every hit should be perfectly straight. Such hits are much more difficult to stop, having two advantages, that of the guard being too low or too high.

It is best in almost every case to lead off with the left hand, the right acting as the guard to protect yourself. Some few sparrers can detect when an opponent is about to hit with the left hand, and counter him. That is, instead

of the hitter hitting, he is hit. The one who can make this hit with a certainty, will ever be a successful boxer, provided he is quick upon the feet to break away from any return that may be made.

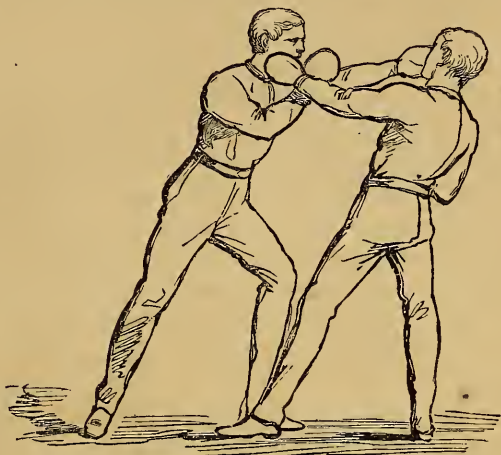


Fig. 4.

The best sparrers at the present day are those who are noted for their quickness upon the feet. The feet assist the hands, in springing forward in order to execute a hit at long range, or backward, to avoid being hit. If the hands and feet act as they should—together, it imparts ease and grace to every movement, and you are always ready to act. The active sparrer avoids many hits by his quick motions.

In this exercise, good humor should ever prevail, the object being to make the exercise a pastime of pleasure, and at the same time to fix in the mind a proper element of courage and confidence, instead of timidity in time of danger. In order to do this you must keep cool, and not at any time lose self-command and presence of mind.

Each turn or round, at first, should continue not over five minutes, for there are few exercises that try the mind more than quick sparring. But frequent practice will improve it, as it will also impart to you a more perfect knowledge of the science.

The Counter Hit.

This is certainly the most important hit in sparring, and is made in the following manner: you strike at the same instant your opponent strikes. To execute it well, and make it effectual, watch your opponent, and the instant he strikes, you strike at him, avoiding his blow, either by stopping it with the right, or throwing the head slightly over the right shoulder. This is almost always a very hard and effective blow, from the fact that it is received at the moment that your opponent is coming forward.

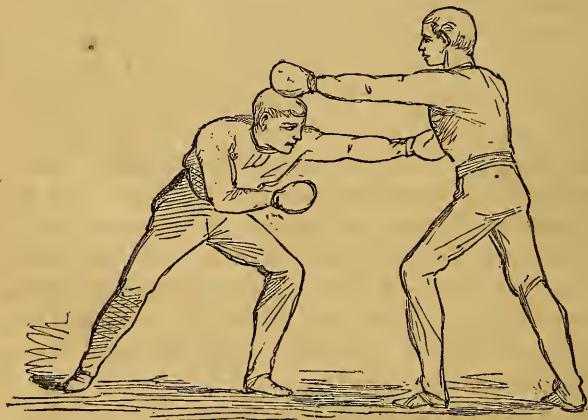


Fig. 5.

The Cross Counter.

This is when two opponents hit at the same instant, one with the left and the other with the right hand.

Double Hit.

This is often successfully made by striking two blows at the head; the first being stopped, the second taking effect. But the most perfect double hit is the one spoken of in the exercises. In either, the right arm must guard well your own head.

Remarks.

In offering these few suggestions on the healthful and invigorating practice of sparring or boxing with the gloves, and on the art of attack and defense as practiced at the present time, I beg that I may be acquitted of assuming to myself any superior knowledge, either theoretical or practical, from those who have taken the exercise and felt a pleasure in it, or derived a benefit from it. The motions and exercises that I have given are generally understood by many who spar; but at the same time I entertain a belief that by affording to the beginner some insight into the first principles of the art, it will enable him to acquire more readily an acquaintance with its scientific advantages. That a man can be made a perfect sparrer, any more than he can acquire a perfect knowledge of fencing, or dancing, or any other bodily accomplishment, by means of only book instructions, experience has shown to be at least problematical; but it can not be denied that a previous acquaintance with the rudiments and general character of those accomplishments is desirable, as it affords facilities toward subsequent improvement.

It is frequently urged that from books mistaken impressions or objectionable habits may be taken: but even under such circumstances, the instructor is enabled, by comparison and illustration, to exhibit the value of the perfect over the imperfect system. With this view I have given,

to the best of my ability, those exercises, and I trust they will not be without their utility; but to excel, it must be borne in mind, a competent teacher is indispensable. For a man who has a mere superficial acquaintance with his subject, however he may astonish the ignorant, when he comes in contact with a clever tactician, will find himself lamentably at fault, and more especially in the art of which I have treated, and therefore it is that I would recommend theory to be followed by practice.

It has been argued by some as a ground of objection to the knowledge of sparring, that it leads men to be pugnacious, and that they are more ready to seek than to evade a quarrel, in order that they may display their superiority. To this I do not assent, for I have almost invariably found (except with persons who can not command their temper, and if this be the case, whatever be their acquirements, they will be equally without control) that the consciousness of power inclines men to be less prone to quarrel, and more forbearing toward an opponent. Calmness of disposition, joined with perfect self-possession, is in fact one of the most valuable attributes of man, and one of the best tests of true courage. The great end of this exercise is to instill into the mind a manly and honorable bearing, combined with personal confidence in the hour of danger. I have no apprehension, therefore, that the knowledge of it will lead to the abandonment of those principles of self-respect which are alike estimable in the minds of the honorable. The knowledge of sparring, independent of its uses as a means of self-defense when assailed by lawless outrage or vulgar impertinence, has the additional recommendation of being one of the most healthful exercises by which the vigor of the human frame can be improved. The whole body partakes of its beneficial consequences

when heartily pursued. The muscular conformation is brought into action, and the latent energies of the system gradually but effectually developed. As the health of the mind is influenced by the health of the body, additional stimulants to its pursuit are offered; and as it can be enjoyed at all seasons and at all hours, in the most confined as well as the most extensive localities, by the old as well as by the young, by the weak as well as by the powerful, it is in fact one of the best of athletic exercises, and should be universally encouraged.



G.

Training.

CHAPTER XVII.

TRAINING, OR HOW TO REMOVE CORPULENCE	257—283
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CHAPTER XVII.

TRAINING, OR HOW TO REMOVE CORPULENCY.

TO the question—What is Training, and what is it intended to do?—I will answer: It is to put the body, with extreme and exceptional care, under the influence of all the agents which promote its health and strength, in order to enable it to meet extreme and exceptional demands upon its energies. The ordinary agents of health are Exercise, Diet, Sleep, Air, Bathing, and Clothing. I place them here in the order of their importance. My purpose here is to examine some of those agents.

First, then, what is Exercise? We have some notion of what food is, and of the manner in which it nourishes and sustains the body. We see it—taste it—swallow it; and we feel while doing so that it is essential to life and health and strength. We need no reminder of the necessity of air, for the great benefit of this we experience every moment of our lives. Nightly we feel that sleep is a necessity also to life and health. The same may be said of bathing, as a cleanser and bracer of the skin, and all know how clothing affects health in this climate, by the sudden changes and its requirements.

Exercise will hasten the decay and death of all fatty tissues, and replace it with fresh and better material: it will increase the size and power of the voluntary muscles employed; it will promote the health and strength of the whole body by increasing respiration and quickening the

general circulation. These being the results of exercise, I will now proceed with the manner of taking or performing it.

When a corpulent man eats, drinks, and sleeps well, complains of no pain or any organic disease, he is apt to think that every thing is about right. He forgets that that very ease may carry him off without a moment's warning. Can there be any thing more distressing than obesity and the evils that accompany it? My desire here is to impress upon the mind of all such, that by following strictly the rules laid down, good health will be enjoyed, and life will be prolonged. The impression appears to exist in the minds of fleshy people, that to prevent or remove corpulency, all business pursuits or hours of pleasure must be entirely given up. This is not wholly the case, although it necessarily must be to some extent. I have no doubt there are numbers who would like to reduce their flesh and weight if they were satisfied it could be done without materially interfering with their other pursuits of life. Let me here say to all such, that all that is required is to know how it should be done, and the will to do it. Every man, woman, and child grows stronger by exercise, and in my system of reducing the weight the strength is increased, and much of the bulk is turned into muscle and sinew, while at the same time the respiratory organs are being enlarged and freed from impurities.

Heretofore, when men found they were growing too fleshy and sought to check it, or when they desired to become lighter, they would resort to Turkish or Russian baths, and place themselves under strict diet, but unfortunately, the very kind that would tend to make fat, not remove it. The baths are very good in their place—for cleansing purposes only. If taken for the purpose of removing the

fat, it must be repeated often, and this will soon weaken the constitution. I have known persons that have tried this system of steaming the fat off, as I might call it, but gave up in despair, although for removing colds, rheumatism, and such ailments, they thought it might be good. Now one of the means has failed—the steaming process—next let us see what the diet has done. The man has changed his food and been living upon what he calls light diet, composed of farinaceous food—the very thing that is used to fatten nearly all kinds of animals. Fat is what is termed hydrocarbon, and is found distributed all through the tissues of the body. Now this being the case, we require a certain amount of oxygen and nitrogen to arrest its formation, and give life and vigor to every organ in the whole system. Farinaceous food will not do it; therefore it must not be taken. Articles of food are often eaten in early life which agree with the stomach, although in after years, if the same kind was taken, it might prove any thing but beneficial.

Now when a person is corpulent, let him abstain from taking any thing that tends in the least to create fat, such as milk, beer, potatoes in large quantities, fresh bread, butter, sugar, and every kind of vegetable except occasionally tomatoes. Hot cakes or hot bread should never be taken. The food should be as follows:

For *breakfast*, from six to eight ounces of good beef or mutton, or a small piece of broiled chicken, with dry toast or hard biscuit and a cup of tea not too strong (without milk or sugar).

At *dinner*, beef, mutton, chicken, venison, partridge, or quail in reasonable quantity and cooked plainly. No vegetables except, perhaps, one good mealy potato, or a small quantity of fresh tomatoes; hard bread or toast.

Abstain from all spirituous liquors or ales. If any wine is taken it should be sherry or Madeira; but a cup of tea is much more beneficial.

For *supper*, a thin cut of roast beef or mutton, with tea and toast. This meal should always be light, from which a good night's rest will be obtained. Eight hours' sound sleep will be quite sufficient; but where the rest has been broken, ten hours I think is not too long to remain in bed.

On rising in the morning, wash the mouth and teeth with cold water, and if the strength in your legs will permit you to walk, go out into the air and walk until you feel slightly the exercise. On your return, if there is any perspiration—and no doubt there will be—remove the damp garments and put on dry ones. The knees will feel a little weak, the ankles stiff, and you will no doubt puff and blow like a grampus the first few times; but you must not get discouraged. The diet will soon give you strength, and the exercise make you lighter. I would recommend an increase of exercise in proportion to the increase of strength. It is astonishing how rapidly man improves in health and strength under a good system of diet and exercise. In fact, it has been practically illustrated in England that man can endure more severe exercise and to a greater advantage than any known animal. But, upon the other hand, none shows the difference between health and its absence to such a degree.

When a man is brought to know what to eat and drink that is healthful and that which agrees with him, I can hardly imagine he will ever experiment with his stomach after. There is scarcely one in a thousand who supposes that he must ask leave of his stomach to be a happy man. In many cases the difference between happy and unhappy

men is caused by their digestion. Oftentimes the difference between hopeful men and melancholy ones is simply the difference of their digestion. Believe me, the foundation of all earthly happiness is physical health; and yet men scarcely ever value it till they have lost it. If men would only become better acquainted with themselves, there would be much more health and comfort, and very many might be saved from premature graves who die from apoplexy or heart disease.

Corpulence.

Dr. Mott says that corpulence, although it gives no pain, still presses with undue violence upon the bodily viscera, loading or driving one part upon another, and stopping the free action of all. I am confident that hundreds who are suffering from extreme corpulence would be relieved and greatly benefited by following the course of treatment here laid down. All I ask is a fair trial for forty days, and at the expiration of that time I am confident you will state to your friends that you feel like a new man, and that nothing could induce you to go back to the old method of living. It is the great charm of the diet and exercise that, when once relieved by it, it becomes established, and you never again feel like giving it up.

In regard to the above system of diet, I am able to say that I have recommended it to many who will testify to the great benefits derived. There are many men of sedentary employment who can not spare time for a thorough course of training, but who desire to remove the fat that is every day clogging the muscles and preventing free action. All they have to do is to follow the simple rules here laid down, and my word for it, they will never regret it.

It is an old saying that "Practice makes perfect," and "Use is second nature;" but how often those sayings are repeated without realizing the truths they express. We all believe in their promise, but do not appear always to comprehend the cause of their literal fulfillment. The results of the working of the law are sometimes seen before the nature of it is understood, that the functional ability of every organ in the human system is in relation and proportion to its activity.

I have received a statement from one of the first physicians in this city in regard to the proportioned difference that should exist between weight and stature. His calculations were made upon the quantity of air passing in and out of the lungs, by which means he could give some estimate as to the health of the various bodily organs. His statement is as follows:

STATURE.	WEIGHT.	STATURE.	WEIGHT.
5 feet 2 inches should be	120 lbs.	5 feet 8 inches should be	155 "
5 " 4 "	" 130 "	5 " 9 "	" 160 "
5 " 5 "	" 136 "	5 " 10 "	" 168 "
5 " 6 "	" 140 "	5 " 11 "	" 172 "
5 " 7 "	" 145 "	6 "	" 175 "

This tabular statement is made from an average of 3,019 perfectly healthy men.

Elements of Food.

Some articles of food have no carbon, others no nitrogen; some have both in varying proportions. All kinds of food have water or waste from five to ninety-five per cent. The following table shows the result of the researches of one of the ablest chemists of the present age: .

ONE HUNDRED PARTS.	SOLID OR NUTRI- TIVE MATER.	WATER.	CARBON.	NITROGEN.
Beef, lean and fresh.....	26	74	10	8
Mutton, lean.....	24½	75½	8	6
Chicken.....	23	77	—	—
Eggs, } the yolk.....	45	55	—	—
} the white.....	20	80	—	—
Fish.....	18	82	—	—
Oysters.....	13	87	36	—
Bread.....	66	34	31	—
Potatoes.....	24	76	11	—
Rice.....	78	22	—	—
Arrowroot.....	82	18	36	—
Butter.....	83	17	66	—
Beef Tea.....	4	96	—	—
Milk of cow.....	13	87	—	—
Oat Meal.....	92	8	—	—
Corn Meal.....	86	14	—	—
Wheat.....	84	16	39	2
Rye.....	80	20	37	2
Cherries.....	24	76	—	—
Peaches.....	20	80	—	—
Gooseberries.....	18	82	—	—
Pears.....	16	84	—	—

Amateur Training.

[*Professor Starr's Experience.*]

The following description by Professor William Starr (the eminent linguist at the head of the Polyglot Bureau of this city), of the *modus operandi* pursued by him in training, in order to reduce his weight without incurring the severe physical labor which professionals, be they pugilists, pedestrians, oarsmen or jockeys, have to undergo, will be found interesting, inasmuch as it demonstrates the facility with which persons of sedentary and literary pursuits can restore the body to its normal condition by simply adhering faithfully to a natural system of abstinence and gentle physical exercise:

POLYGLOT BUREAU, 71 Nassau Street. }
NEW YORK, April 9th, 1866. }

WM. WOOD, ESQ.,

DEAR SIR:—In compliance with your request, based upon the assurance that a succinct account of my actual personal experience in the reduction of adipose or accumulated false flesh, by means of judicious dieting and light exercise, would enhance the interest of the valuable work which you contemplate publishing, I will endeavor to briefly describe the system followed by myself and its results on two occasions.

Shortly after my arrival in Montreal, Canada East, upon my return from Europe in the spring of 1859, I first experienced a feeling of apprehension caused by a rapid and abnormal accumulation of fat, especially in the throat, stomach, and in the region of the heart and lungs. At the period referred to I had just completed my 22d year, and the sudden growth of so much false flesh (my weight then being 220 pounds) alarmed me and induced me to resort to some means whereby to reduce my body to a natural and proper weight. A fear of being a victim to apoplexy or dropsy of some vital part, produced the resolution to rid me of the superfluous fat at almost any sacrifice of appetite and bodily comfort. After taking various preparations recommended by my physician without gaining relief from my semi-comatose condition, and without getting rid of any quantity of the superfluous fat which, owing to my sedentary pursuits, had accumulated on my frame, seriously obstructing the free action of the vital organs, I set to work and made a common-sense diagnosis of my case, in result of which I prescribed a regimen of dry, nutritious food, as little liquid as possible, and a mild course of sweating, to be produced by gentle exercise, carefully avoiding muscular strain through injudicious gymnastic efforts. As the accumulation of flesh had come gradually, I thought the only safe and efficacious system to pursue would be such a one as would ensure a gradual decrease.

My daily routine may be briefly described as follows: Up in the morning between 6 and 7; sponge bath of water, saturated with bag salt. One mile walk in fine weather, or half an hour's exercise with 5 pound clubs or 8 pound dumb bells. Breakfast at 8, consisting of one cup of black tea, half pound of beefsteak or mutton-chop under done, varied say twice a week by the substitution of three poached eggs, two pieces of dry toast, or two hard crackers. Between breakfast and dinner, exercise from one to two hours with clubs, wood-sawing—dry pine—walking and short runs, pulling light weights, etc.; varying the exercise as much as possible. Dinner at 1 of beef or mutton, with cracker, and occasionally

a slice or two of raw tomato, or a leaf of lettuce (but no other vegetable whatever), half a pint of old ale or pure water colored with the tincture of gentian. In the afternoon, generally at 3, a walk from 6 to 12 or 12 miles, well encased in the "sweaters," swathing the neck and stomach well with strips of flannel cut for the purpose, having on three or four loose flannel overshirts, and three heavy overcoats,* leaving the hands bare, and with light, easy shoes on the feet. My general plan was to run or rather "jog along" at a sort of Indian trot until the chest became oppressed or the head too highly flushed, when I would slacken my pace to a walk; never stopping entirely or resting by the way while the perspiration was going on. I took care also upon returning to my quarters to peel off the sweaters gradually, walking up and down the room during the disrobing process, and having my attendant rub me dry before sponging with the bag salt water. After the bath, I allowed myself one or two raw eggs, in a half tumbler of sherry, and then remained quiet until tea-time, 6 o'clock. This meal was the fac simile of breakfast, except that I limited myself to a smaller quantity of animal food. At say half past 8 or 9, I supped on a small glass of very old ale and a piece of dry crust or toast. This last meal, however, I dispensed with altogether toward the close of the training. During this period I never once smoked tobacco, although I occasionally indulged in chewing the weed. The use of tobacco, however, in any shape, during training, produces a very pernicious effect upon the blood and nervous system. The result of this diet and sweating, at the end of 21 weeks, was a reduction of my weight from 220 to 142 pounds. I had myself weighed regularly, and always in the same clothing each week, but the record is not within reach at present. The statistics of a portion of a second course of training I give you below. This reduction of 78 pounds of flesh in 150 days' time, being an average of 3 $\frac{1}{2}$ pounds per week, or a little over one half a pound per day, in a person like myself, unaccustomed to active physical exercise, remaining in good health and spirits during the entire course, is an evidence of the splendid physical condition in which men of more active profession and habits might keep themselves by a judicious diet and regular exercise. A very large proportion of the diseases which affect humanity may, in my opinion, be traced to excesses and irregularities in food and drink, and to overexertion of the body. Not a crumb or a drop in addition to the quantities I have specified did I ever once allow to pass my lips during the 150 days that I was in training.

* The weight of the sweaters and clothing was 36 $\frac{1}{2}$ pounds.

After resuming my professional pursuits, I soon experienced a prostration and exhaustion of the system, owing to the waste being in excess of the supply, so intimate and instantaneous is the connection between the brain and stomach. Consequently, in order to supply the necessary vigor, I was reluctantly obliged to resume a course of generous living, and frequently to resort to stimulants and nervines in order to lend the system an artificial strength. To show the necessity of this, I would state that out of the 24 hours I could spare but 5 or 6 at the most for sleep and rest; and often hour after hour during several days in succession, I have dictated translations on opposite subjects in different languages to as many as three writers at the same time. But the fine condition to which I had restored my body enabled me to go through with this severe mental and physical labor for many months without nervousness or any symptom appearing of a tendency to relapse into my former almost dropsical condition. Gradually, however, owing to my unremitting devotion to my literary labors, and the utter absence of exercise, I felt a heaviness and sluggishness creeping over me which increased until, upon weighing myself in the beginning of September, 1862, I found, to my partial surprise, that my weight was a few ounces over 200 pounds. Being again alarmed at this increase, I determined to put myself again in training, and as I feared the effects upon the nervous system of too sudden a change of living, I gradually reduced the quantity of my food and drink, taking slight doses of salient medicine every day or two until the 22d day of the month, when I commenced to train in earnest. The system followed was similar to that already described, saving that I consumed from one-fourth to one-third less nutriment, both solid and liquid.

The following is a record of my weight at various dates during this my second course of training :

	LBS.	LOSS, LBS.
Sept. 22, 1862.—Weight.....	197	
“ 29, “ “	191	6
Oct. 6, “ “	187	4
“ 13, “ “	185	2
“ 21, “ “	178½	6½
“ 27, “ “	176	2½
Nov. 3, “ “	170	6
“ 17, “ “	160	10
Dec. 1, “ “	150½	9½
“ 8, “ “	145	5½
“ 29, “ “	137	8
Total loss.....		60 lbs.

NOTE.—The clothing, including shoes, etc., in which I was weighed on each occasion, weighed precisely 5 pounds, which is to be added to the above figures.

During this course, occupying 101 days, or 3 days over 14 weeks, the actual loss of flesh was 60 pounds, being at the rate of about $4\frac{2}{3}$ pounds per week, or $\frac{2}{3}$ of a pound each day. The greater rate of reduction in this course was owing to the reduction in the quantity of nourishment to which I limited myself, the exercise being of the same nature and duration as in the first training.

From the same causes my weight has continued to increase since 1862, and I now weigh 245 pounds, which is much more than I have ever weighed before.

In a few days I shall enter upon a third course of training; but this time I shall extend it over a longer period, making the reduction as gradual as will consist with my overwhelming professional labors. My intention this time is to reduce my weight to 170 pounds, which will be a loss of 75 pounds of flesh, much of which is more solid and muscular than when younger. I take into consideration that my height, stripped, is a trifle over 6 feet 2 inches, and that with my natural hereditary tendency to fleshiness, and my sedentary profession and additional years, the reduction I am about to make must be more gradual, so as not to shake the nervous system. After reaching 170 pounds, it is my intention in future to not allow my weight to extend over say 180 pounds, which my physicians tell me would be the normal weight of a man of my frame and height. In the hope that these details may prove useful to you as the actual experience of an amateur,

I remain, yours truly,

WILLIAM STARR.

It must always be remembered that our bodies are nourished not by what we *Eat*, but by what we *Digest*, and that the digestive powers are limited, and can only operate fully and without injury to themselves upon a given quantity and quality, for during health these powers will ever be in relation to the wants of the body as evidenced by appetite.

It is generally well known that physical exercise should be avoided immediately after eating, from the fact of respiration being circumscribed to ordinary breathing when the stomach is full; here again it will be seen nature is our guide.

As hunger is the warning voice of nature, telling us that our bodies are in need of a fresh supply of nutriment, so is thirst the same voice warning us that a fresh supply of liquid is needed to replace that which has been separated from the body by perspiration and other secretions; though the sensation of thirst appears to be confined to the mouth and throat, the demand for fluid is in reality experienced by the entire system. In cases of extreme thirst, the best plan is first to cleanse the mouth and throat, either by rinsing them with a mouthful of water as a gargle, or by chewing a small piece of biscuit, and spitting it out when lubricated, and then to swallow a few mouthfuls of the liquid. Repeat this until the thirst has become allayed. By this means, the water will be conveyed into the blood almost instantly, leaving little, if any, remaining in the stomach. After a short space, the luxury of a good drink may be enjoyed. I have myself followed this rule under the fullest extremes of heat and thirst, and always with increased comfort, health, and bodily power.

Proper care must improve the general health. Men often go through a course of training in order to perform some feats where a combination of strength, activity and endurance is required; and if the condition is perfect on the day, it will be performed with pleasure to himself, and with some advantage to his health. I would advise that no one should ever attempt any contest where the above qualities are required without first making such preparation as will enable him to do his work without feeling any bad effects from it. "Gameness" in one who practices athletic sports is a good thing, and is worthy of all praise; but I have known men to be injured by it. Gameness and condition combined is hard to beat. There is not the slightest trouble for the man who has lived regularly and

taken exercise, to go through a course of training ; to him it is an easy task, and he really enjoys it ; but to the man who has been an every-day drinker and smoker, it is quite a different thing. When such a one commences work, he must to a certain extent check these practices, but this should be done with caution. It would never do to suddenly leave off all stimulants. The smoking or chewing can be dropped at once, and a small quantity of beer, wine, or spirits, or what the man has been in the habit of drinking, given each day, gradually lessening the quantity. The very best stimulus is sherry wine ; the next good brandy, two-thirds water.

Medicine should never be given unless absolutely necessary. If the liver is healthy and active (which can be known by examining the *fæces*), and if of a bright brown or brownish yellow, all is well, and no medicine need be taken ; but should they be of a pale clay color, you should take one large table-spoonful of ground Turkey rhubarb to three of rochelle salts, steeped in a gill of boiling water for twenty minutes, strained off, and taken. Should the bowels be inclined to act more than once each day, omit one or two exercises, and change the diet a little. This I believe to be much better than to counteract the medicine ; but should it assume the character of the diarrhœa, the aid of a good physician should be obtained.

While training, the mind should at all times be occupied and amused, for upon this a great deal depends. If it is all work and no pleasure or enjoyment, the task will be hard. This point is too often lost sight of by many who train. With all bodily exercises, amusement must be inculcated ; without it exercise becomes a mere drudgery, which tires, but does not lead to a restoration of power. When exercising, give some mental excitement, and the fa-

tigue is scarcely felt. I know of nothing that conduces more to a successful prosecution of this plan than the mutual agreement of two or more persons whose object is the same, to assist each other in every possible way. When two persons agree to restrain one another when tempted, and also to amuse each other in walking, riding, fencing, gymnastic exercises, or, in fact, any kind of athletic exercise, the health and strength of both will be improved.

I can imagine but one kind of training for the man who seeks for strength, agility and endurance. At the commencement he must leave off injurious food and drink, avoid chewing, smoking, and venery, and take just enough exercise, joined with amusement, to tire, without prostrating the muscular system. The diet must be plain (this is described in another place). I do not think it prudent to put the person on rigid diet at first. Few persons could stand it. This must be done by degrees. I can not speak too highly of the use of cold water in the morning; the salt or sea water is much better if accessible. After the bath, rub until a glow is produced, and dress warm with flannel next the skin.

There is another class of men who sometimes are called upon to go through a course of training, either to improve their health, or perhaps to try some feat where strength or endurance is required. These are the Free Livers.

Now these are men who live high, eating from three to six meals each day of rich seasoned food, and whose bodies are wholly idle. They think only of gratifying their appetites. With such men a very strong control is required. It is seldom that men who have led such a gay life can form a resolution and keep it. They are generally unable to resist temptation. Such a man may be strong in body, but weak of mind. He makes promises, and breaks them

twenty times a day. Such a one may be governed and restrained by a superior mind, but never can he control himself.

With such a one you must find amusement for the body and mind. His former habits have led to a dislike of all exercise, so at the beginning let it be light and gradually increasing, but never so as to exhaust him. In this manner this class of men can be restored to health, or at least to such a state as will fit them to do severe work, and undergo the strict dieting which is required in training.

To those following literary pursuits I would by all means recommend exercise. Eight hours a day for study, if one really works hard during that time, is all that the mental powers can advantageously endure. This will leave eight for sleep, and eight for meals, exercise, amusement, and so on. There is nothing gained by poring over classical authorities or old musty books beyond the hours named. How often is it that the strain upon the mind has become so intense from study that it must be given up entirely in order to restore the body. Very few men of reading feel like giving it up until they are almost gone. Now with such a one I would advise a relaxation from study to exercise, commencing at 9 A. M., and concluding at 5 P. M.—study two hours, and exercise twenty minutes alternately. In this way the mind and body will be strengthened mentally and physically. It should be remembered the diet should be simple but good, and the exercise gentle at first, and of an amusing character. The bed must be sought at 9.30 or 10, and the sleep uninterrupted. Man leaves the bed after disturbed sleep often more fatigued than when retiring. When the night's rest has been good, the mind will feel refreshed as well as the body. The studies can then be renewed with vigor.

This is the way that the student or reading man may restore and preserve his bodily health; by pursuing this course, he will be prepared at a moment's notice to go into training for rowing, running, or any athletic exercise.

Let me advise my young friends who reside in the upper part of the city, and in fact in all cities and places where the walking is good, to walk to and from their place of business morning and evening. There is more than one object in this: the first, improvement of health; the second, business; the third, pleasure and enjoyment on returning home where hearts and hands are waiting to receive you. Thus you devote perhaps one hour or more every day to at least one exercise, and this will go a great way to keep you in good health; if you would only second this with a little exercise for the chest and arms, all would be well. Remember the human frame can bear a great deal, both mentally and physically, but when the burden becomes too great it must give way.

The above directions are suited to all cases where the health is such that studies or business can be employed together with exercise. But there are cases where the mind and body are completely upset; in such a case study and business must for a time be set aside. Change of diet, moderate exercise, agreeable society, together perhaps with change of air and scene, will soon restore you to health and happiness.

Training for Walking.

A short walk and run before breakfast in order to employ the intestines and prepare the stomach for the first meal, which should be taken thirty minutes after changing the dress, which should be made of flannel throughout.

The walking shoes must be with thick soles, with one-half pound of sheet lead in each, the uppers of soft calf-skin; these may be changed for lighter ones as the condition becomes fine. For spurt running the soles should be very thin, but for long distances they must be a trifle thicker, or the feet will blister. At 10.30 the start should be made and kept up two hours, never stopping for a moment during the time unless some of the organs call for rest. This will not appear long if you have one or more companions that are agreeable. Upon the return, attend well to the cleansing of the pores, and after thirty minutes' rest, take dinner. Two hours rest should be taken after this meal, after which another hour and a half's walk must be taken.

It must be remembered that the amount of work done should be in proportion to the distance that is to be walked. If it is short, all that is required is to get in good health and keep so until the day of the race. But if the distance is to be ten or fifteen miles, then the powers of endurance will be tested, and the training must be for this and speed combined.

Something depends upon the mental powers. While one is undergoing a course of training, the leisure hours should be spent in reading some instructive book or paper, and the conversation when exercising should partake of the same character.

As the day approaches for the contest, the man should be inspired with confidence, but not made overconfident. I believe many races have been lost by the anxiety felt for hours and sometimes days before the contest. This is of course the result of nervousness. Hence it is that such a man should be encouraged by inspiring confidence in his powers. Such men often prove the very best after getting to work.

Training for Running.

The principles of training for running are similar to those for walking, except that the latter are taken by all for the purpose or to improve the general health, while the former is adopted in order to perform some feat. The man preparing for a short spurt should run four times each day the distance named. When the distance is long, say five miles, it should be gone over twice each day; and if ten miles, once or something more. When the condition becomes fair, increase the speed, but not to such a degree as to exhaust or feel weakened by it.

In every case where one is training for a long distance, at least five hours of the twenty-four must be spent in walking and running. But great care must also be taken that the man is not overworked; he should do all that nature will permit, and the circumstances of the case demand, and no more. Man however can bear severe work, and in a wonderful manner, provided the appetite continues good and the sleep is not disturbed with dreaming, twitching, or starting. If he can eat and sleep well, there need be no fear but he will work well; always providing that the mind works with the body.

Men often run the first day as they would the last. Rapid walking or running under such circumstances had better be left alone; it but fatigues the limbs, and as regards respiration, aggravates the very parts which it designed to alleviate by gradual preparation. Few things worth doing can be done suddenly. It is the gradual increase of the exercises that improves the wind and strength the quickest and without distress.

Training for Rowing.

The boat race admits of more rivalry and friendly competition than any of our national pastimes, except perhaps base ball. The physique of the men who form racing crews, the beauty of the boats, the splendid rivers upon which to row them, gives to this sport the first place in athletic and recreative exercises.

That there has been any improvement made in rowing in this country within the last thirty years I do not believe. The Whitehall Watermen of 1835; the Seamans of New Jersey, 1840; the Ludlows, the Jennings, etc., etc., had, in my judgment, all the skill and science that the men of the present day possess. That we have made great improvement in the model and build of boats, and also in training men to row them, I will admit.

Men for boat racing should be selected for their health, strength, and activity. The art of rowing will come by practice. I do not suppose that every man can become an accomplished oarsman, but I do believe that all can learn something worth learning. The selection being made, the next thing is to look at the previous habits of each man. These habits should not be changed suddenly, but by degrees. By fixed habits I mean such as smoking, chewing, drinking, sleeping, diet, etc., etc. Proper exercise will always create the demand; food will yield the supply.

The importance of fresh air is acknowledged, but not fully appreciated or acted on. It is presumed that every man forming a racing crew will have sound lungs. Unless he has these, that is no place for him. The rowing man's sleeping apartment must at all times be well ventilated. Let any man sleep in a close room, and in the morning he will wake flushed and hot, and often with

headache. Go for a few minutes into the pure air, and mark the change. The instant a man is awake he should get out of bed, wash and dress, then open wide the windows. Here you have the two great agents of health, fresh air and fresh water.

In training, the bath must be steadily kept in view. I have often heard men say that they preferred warm to cold water. They forget that they are for different purposes. Cold water is what a man wants when in training, and the best time to take it is immediately after getting out of bed. It is a mistake to think that the body should be allowed to cool down before the bath is taken. Nothing closes the pores but the shrinking of the skin, and to do this by standing in the cold, you defeat the purpose for which the bath is taken. All those points have been well observed by rowing men in training, and therefore may be relied on.

Training causes the speedy removal of all waste, and the hastening forward of fresh material for its replacement, and in doing this it attains three distinct results: 1. It increases the size and power of the voluntary muscles employed. 2. It increases the functional capacity of the involuntary muscles employed. 3. And by far the greatest, it promotes the health and strength of the whole body by increasing respiration and quickening the general circulation.

There are also many points that should be left to the good sense and earnestness of the men themselves, such as never to row while suffering from severe cold or any inflammatory affection of the chest or throat, or the slightest indication of any irregularity in the action of the heart. It is the duty of every man to be candid on those points, not only for his own sake, but for the best interests of rowing.

I would advise all persons, either in or out of training, to leave "nostrums" alone. If they are sick, let them go to a good physician—one in whom they have confidence—and take what he recommends. There is nothing so dangerous either to bowel or brain as this constant self-physicking.

The requirements of the body in summer and winter are somewhat different. In winter, diet should be more generous, for the heat-producing articles are more in demand. Less vegetables should be taken, and a smaller amount of liquid. The thin summer shirt with short sleeves should give place to the loose flannel.

Too much care can not be taken in selecting men for race rowing; they should not be too young nor too old. If young, they should be carefully drilled, holding as the first principle the future health and strength of the body. A man should never be selected for his superior skill, nor from willingness alone, for there is many a young man who possesses these qualities to an eminent degree, who has not the physical power of development or endurance.

Exertion must not exceed the powers of recruitment furnished by diet and rest, nor should any thing be done to cause bodily fatigue immediately preceding rowing. The walking, the running, the Indian club and dumb bell exercises, are taken to strengthen every available part, and to assist the rowing power, so that the man as well as the rower may be cultivated. No sound man need be afraid to exert himself for fear of "taking out" of him; all that he loses in that way will be replaced with tenfold interest by the very process of extraction.

Sameness in exercise will certainly give precision and dexterity; but variety is essential to vigor and power. I mean by this that the man training to row a boat race requires the exercise named above.

The effect of the too rigid system of diet practiced by many has, I think, a depressing effect upon the nutritive organs and upon the natural appetite, which after all is the expression of the body's wants—for however nutritive in itself food may be, when eaten with distaste it will not be digested so fully or so perfectly as if it had been eaten with relish and pleasure.

To eat or drink beyond the requirement of the natural appetite is a great error, for every particle so taken becomes an encumbrance, a hindrance, and a loss. The digestive organs will not convert more food into blood than is needed to supply the actual wants of the body. It is well for all men to know the proper kind and quantity of food required, that which satisfies and no more. All men know that intemperance and self-indulgence are incompatible with health, strength, or activity, and that energetic and regular habits, implying early hours of rest, early hours of rising, good hair mattress beds and spare bed-clothes, with frequent and abundant use of cold water, are all agents in promoting physical power. These are the means that men must adopt who are looking for physical distinction.

In training, man must have perfect control over himself. This implies not only restraint and direction, but bringing into action the hidden and undeveloped powers, by which means man controls man, and for the most important ends. The want of this power is the common and special defect not only of weak minds, but very often of the strongest natures; it is indeed never perfectly attained, but is capable of being made nearly so. The man without self-control is like a high-mettled horse unbroken, which runs away with or throws his rider. It is hard to overcome bad habits. I have heard men say, "I know the habit is injuring me,

but I can not give it up." What is there so noble in man as the will, when directed by good judgment and right intention? The three great characteristics of success in life are sagacity, integrity, persistency. Restraint comes hard to most men; but think what good springs from it in after life. The word "enthusiasm" ought to be comprehended in its original and noble import, then what man did would be done well.

How to Remove Fat.

When commencing training, if the organs are all working well, no medicine should be taken. It is well known that an overquantity of fat upon the human form interferes with the due action of the muscles, and especially upon the inside, and in and around the region of the heart. Now there are two ways to remove this: one natural, the other artificial. The first is the only true way, for with it you grow stronger as you grow lighter.

Natural sweating is simply to put on extra clothes—from three to six thicknesses of flannel over those parts that are loaded with fat. The neck should be encased in a close wool shawl, and when thus clothed take a walk, or if it is possible, a slow run, until you find yourself in a good perspiration, which should be kept up for at least an hour. This can be done with feather beds placed in front of a good grate fire. Every part must be covered except the eyes and nose. At the expiration of this time remove the clothes, beginning with the upper part of the body, and wash the neck, shoulders, chest, arms, and every part of the body with hot salt and water. Sea water is best if it can be obtained. Then rub dry with coarse towel. It is well to use flesh gloves if the flesh will stand it; the body should be exposed to the air as short a time as pos-

sible—the under-garments must be of flannel, and well dried before putting on. This is the natural way of removing the fat—the

Artificial sweating is as follows : Strip the whole body, and wrap around it a sheet wrung out of cold water; then around this wrap blankets, leaving nothing but the head exposed. In fifteen or twenty minutes reaction takes place, and a profuse perspiration breaks out. Sometimes at this stage cold water is given. This is generally kept up for one or two hours. Then the cloths are removed and cold water thrown over the body, which is then rubbed dry and clothed. This is artificial sweating, and by many held in very high esteem. This is repeated three times a week.

There is one other means by which fat can be removed, but in my judgment it is very injurious to the general health, as it leaves it subject at the least exposure to cold. This is by

Sweating by Medicine or Liquors.—When this means is adopted, it is unsafe to use cold water at any time in washing, and the body must never be exposed to the air. Although this system has been resorted to by some of the best runners in England, still it will never answer. For the man who is to exercise all the muscular powers, the artificial sweating is far better in every respect; for it leaves the man with lighter spirits and with less tendency to stiffness of the limbs.

Natural sweating is the thing. All who try it will ever after throw medicine, liquors, and artificial sweating aside. In medicine sweating you take Dover's powder at night; the next night from one-half to one pint of whey made with white wine, with thirty drops each of antimonial wine and sweet spirits of nitre. This is a very powerful

means of sweating; but it leaves the stomach unfit to receive food and the skin so delicate and soft that the slightest chill gives cold.

Digestion of Food.

In the year 1837 W. Beaumont, M. D., U. S. A., published a work upon the Physiology of Digestion. Although the term digestion is sometimes used to mean all the different processes attending the conversion of food into blood, yet the sense in which it is more usually employed is limited to the process which actually takes place within the stomach; and all observations of the complicated process of blood-making in the living human body after the food has passed from the mouth, have been limited to this stage.

I say actual observations, for from an accident which happened to an American, a wound in which a portion of the side, and with it a portion of the walls of the stomach were torn away, actual observations were made; an aperture measuring two and one-half inches remained unclosed after the wound in other respects had become completely healed; and through this aperture the physician was enabled to watch from day to day over a series of years the process of digestion of almost every article used as human food.

The following table is compiled from those of Dr. Beaumont. These are facts showing the actual process and result in a living human stomach; yet it must be remembered that it was but one stomach, and we all know how greatly digestion varies with different individuals, and how food that is most easy of digestion with one person will be the very opposite with another:

TABLE SHOWING THE TIME REQUIRED TO DIGEST CERTAIN ARTICLES OF FOOD.

KINDS OF FOOD.	HOW PREPARED.	TIME OF DI- GESTION.
		HRS. MIN.
Beefsteak.....	Broiled.....	2 40
“.....	Roasted.....	3
“.....	Boiled.....	2 50
Mutton.....	Broiled.....	2 45
“.....	Boiled.....	3
“.....	Roasted.....	3 10
Lamb.....	Broiled.....	2 35
Veal.....	Broiled.....	4
“.....	Fried.....	4 30
Porksteak.....	Broiled.....	3 40
“.....	Boiled.....	4 15
“.....	Fried.....	5
Venison.....	Broiled.....	1 45
Tripe.....	Boiled.....	1 10
Liver.....	Fried.....	2 15
Turkey.....	Boiled.....	2 25
“.....	Roasted.....	2 30
Chicken.....	Broiled.....	3
“.....	Roasted.....	3
Ducks.....	“.....	4
Fish.....	Fried or Boiled.....	1 30
Oysters.....	Raw.....	2 15
“.....	Roasted or Stewed.....	3 15
Eggs.....	Raw.....	2
“.....	Soft Boiled.....	2 50
“.....	Hard Boiled or Fried.....	3 30
Bread.....	Wheat—Baked.....	3
Rice.....	Boiled.....	1
Tapioca.....	“.....	2
Potatoes.....	“.....	2 30
Cabbage.....	“.....	4 30
Apples.....	Raw.....	1 30

TABLE SHOWING THE AVERAGE AMOUNT OF FOOD TAKEN BY MEN OF ORDINARY HEIGHT AND WEIGHT (SAY FROM 140 LBS. TO 160 LBS.) UNDER DIFFERENT CONDITIONS OF EXERCISE OR ACTIVITY.

AMOUNT OF EXERCISE.	FOOD IN OUNCES.	WATER IN OUNCES.
When not taking any.....	18.7	65 to 85
When in moderate or usual exercise.	23 to 25	75 to 90
Undergoing a course of training.....	30 to 40	55 to 65

Much depends upon the kind and digestibility of food. If indigestible food is eaten, much of it is lost by passing out undigested by the bowels.



7.

Sanitary.

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CHAPTER XVIII.

RULES FOR PRESERVING THE HEALTH.

First.—Maintain habitual cheerfulness and composure of mind, which can arise only from peace of conscience, constant reliance on the goodness of God, and the exercise of kindly feelings toward men. Peace of mind is as essential to health as it is to happiness.

Second.—Breathe as much as possible the clear air that is perceptibly in motion, and conveys to you the idea of freshness and purity; that is accessible to the sun, or would be were the sun shining. Breathe deeply and quickly. Just previous to a great momentarily muscular exertion, breathe slowly and slightly, avoiding any unnecessary exertion while passing through an impure atmosphere, but the moment you enter a pure one, then breathe fully, deeply and quickly, until you have indemnified yourself for the damage you may have just previously sustained. Breathe usually with the mouth closed, head up, chest out, and shoulders square.

Third.—Keep a strict control over the appetite and passions, with a fixed abhorrence of all excess and all unlawful gratification whatsoever. The person who would enjoy good health must be temperate in all things, and habitually exercise the most rigid self-government, for every sort of vicious indulgence is highly injurious to health: first, directly, in its immediate effects on the body, and next, indirectly, in the perpetual dissatisfaction of mind which it invariably occasions.

Fourth.—Sleep above the earth not less than five feet, and above the floor not less than eighteen inches, in a room or place where the sun and air may freely and abundantly enter. A good hair mattress is the healthiest bed that one can sleep upon. Keep the face uncovered and the head slightly elevated, the mouth closed. One window may be a little drawn down from the top to admit the air.

Fifth.—Rise early; and in order to do this eat a very light supper, and go early to bed. The hour before bedtime should be spent in agreeable relaxation, or in such exercises as only tend to compose the mind and promote inward peace and cheerfulness.

Sixth.—Be careful of the skin. This is a highly-organized membrane, full of minute pores, cells, blood-vessels and nerves. It imbibes moisture or throws it off, according to the state of the atmosphere and the temperature of the body; it also *breathes*, as do the lungs, though less actively. All the internal organs sympathize with the skin.

Seventh.—Observe simplicity, moderation, and regularity with respect to diet. Make a judicious selection of the articles of food, carefully avoiding unwholesome dainties and whatever has proved hurtful to the constitution. The quantity of food should be proportioned to the amount of exercise a person undergoes. Sedentary people should be rather abstemious. Their food should be nutritious, easy of digestion, and moderate in quantity. Seldom eat any thing between the regular meals. Strong drinks, tobacco, snuff, opium, and all mere indulgences should be avoided.

Eighth.—Refrain from both mental and bodily exertion for a short time after the principal meal. If immediate exertion be required, a slight repast should be taken instead of the usual meal. Never eat a full meal when the body

is heated by exercise. Wait until you are somewhat refreshed by a short interval of repose. Drinking cold water when the body is hot, and hot tea and soups when cold, are productive of many evils.

Ninth.—Be very sparing in the use of wine and other stimulants. They may sometimes be employed to advantage in cases of extreme debility or extraordinary labor; but under any circumstances, if too freely or too frequently indulged in, they will most certainly impair your health and shorten your life.

Tenth.—Take your meals with as much quiet and comfort as possible. Bustle, vehement discussion, bad news, disagreeable companions, and all vexatious excitement, should be excluded at meal-times.

Eleventh.—Eat very slowly, with a view to the thorough mastication of your food. Rather forego a meal or take but half the needful quantity than eat too fast.

Twelfth.—Practice occasional abstinence. Whenever the system is feeble or disordered, diminish the quantity of food, and allow yourself more time for exercise. In cases of slight indisposition, a partial or a total fast will often be found the best restorative.

Thirteenth.—Take no medicine unless it be absolutely necessary. Learn if possible to keep well without it. In case of real indisposition, consult a competent medical adviser without delay, and implicitly attend to his directions. Never risk your health and life either by neglecting serious illness or by tampering with quack remedies.

Fourteenth.—Practice general ablution as often as twice each week, or wash the body every other morning with cold water by means of a sponge, and rub it dry with a rough towel, or scrub the whole body for ten minutes with flesh brushes.

Fifteenth.—Gentle or light gymnastic exercise should be taken regularly at least thirty minutes each day, or one hour every other day. It must never be forgotten that cheerfulness is an essential ingredient in all beneficial exercises. Mental relaxation in agreeable society should be sought as often as due attention to business and other important affairs permit.

Sixteenth.—The importance of cleanliness of dress and person in every particular must not be overlooked. The thorough ventilation of apartments, also an appearance of neatness and orderly arrangement in every part of your habitation, have much to do with health.

Seventeenth.—The secret of health is summed up in these few words: moderation in eating and drinking; short hours of labor and study; regularity in exercise, recreation and rest; cleanliness; equanimity of temper, and equality of temperature. These are the great essentials to that which surpasses all wealth—health of mind and body.

CHAPTER XIX.

MISCELLANEOUS SUGGESTIONS UPON HEALTH.

AT the risk of repeating much that I have incidentally said in other places, I append a chapter of miscellaneous suggestions in regard to the laws of health. In fact, I repeat designedly and of purpose; for upon a subject like this, which comes home to the experience of every day, hour, and moment, there needs line upon line and precept upon precept. Next to a good conscience, good health is the great element of human happiness. I know very well that there are men—such for example as the great Robert Hall, whose whole lives were passed in intense pain, and yet happiness was the law of their existence. So we read of martyrs exulting at the stake. But such cases, where the mind so triumphs over the sufferings of the body with which it is governed, are exceptions. Our Maker has framed us while on earth of body and soul, the two constituting one Being. There are indeed cases of sound minds conjoined with unsound bodies; as there are of most unsound minds in sound bodies. But the general law is that sound minds and sound bodies go together. To secure obedience to this law is and has been the business of my life. In what I have here written, and in all that I have taught in my profession as “Instructor in Physical Training,” this has been my object. Every physical exercise is in my view a means to an end; and that end is to increase the sum of human well-being and well-doing.

The rules for the proper treatment of the various organs of the human body are called the LAWS OF HEALTH. God has connected the reward of enjoyment with obedience to those rules; he has also created all that they may be happy, provided they do right. He has given us reason and conscience to guide and regulate our lives, so that when we find by experience that any thing tends to injure us, we know or at least ought to know that it should be avoided, and we sin against God and ourselves when we do not. Any person who knowingly violates the laws of health, sins against *God*.

The first law of health is to take care that the stomach has good healthy food, and that the lungs are fully supplied with pure air. Exercise the body at least thirty minutes each day. The health and strength of the muscles depend on the purity of the blood. If the stomach is supplied with unhealthy food, or is loaded with more than is needed, impure blood is the result; and if the lungs are supplied with impure air, the capillaries in all parts of the body lose the life-giving oxygen which alone can purify the blood. Whenever a muscle is exercised, the blood flows more abundantly into it, in order to furnish an increased supply of oxygen. If we use a number of muscles, and use them strongly and quickly, the whole circulation will be affected. The heart will receive blood faster and send it to the lungs; then the lungs work more quickly to supply the oxygen required by the greater amount of blood; the blood returns with greater speed to the heart, and the heart sends it out with quicker action through the arteries to the capillaries. In the capillaries also the decayed matter is carried off faster, and then the stomach calls for more food to furnish new and pure blood. Thus it is that exercise gives new life and nourishment to every part of the body.

Light is essential to the perfect development of the human body. Vegetables that grow in the dark become pale and have a sickly look—and so do children when they grow up in dark rooms and alleys of a city.

Care should be taken that the muscles of the trunk are not weakened by means of long-continued unnatural positions of the spine. Tight articles of dress around the neck, or legs, or arms, interfere with the full health and strength of the muscles. It is perfect folly to expect to cure crookedness or round shoulders by corsets or braces. The only sure remedy for such deformities is a proper training of the muscles in pure air. There is perhaps nothing that so strengthens and gives comfort to the weak as having the muscles rubbed, especially when it is done after a cold bath.

There is nothing so indispensable to beauty of form as the proper exercise of all the muscles. It is rarely, if ever, the case in this nation, that any care is taken in this respect. Children in their sports do not fail, especially if they have access to a well-ventilated room, or are allowed to run in the country, to accomplish this. But how different it is with most grown persons; they confine their exercise to a small portion of the body. In this way the perfect and rounded form of childhood is rarely preserved to mature life as it might be by proper care. Therefore take my advice, and exercise through life the muscles of the whole body.

Pure Air is Essential to Health.

There is perhaps no law of health so universally violated by, I might say, all classes of persons, as the one which demands that every pair of lungs should have fresh air at the rate of a hogshead an hour. This is needed by each one of us in order to secure the most perfect health and en-

joyment of life. The greater the number of persons in one room, the greater is the necessity of increased ventilation. Open fire-places that make a constant draught of the air of a room upward and outward, insure to some extent a supply of fresh air from the doors and windows. But with stoves in the room and windows and doors closed, it is almost certain that the inmates will constantly breathe impure air, which will act as slow poison in undermining the constitution. And when the constitution is thus weakened, diseases of all kinds find ready entrance.

The health of the body is greatly dependent on the kind of food taken, some being much more favorable to health than others. The two purposes of food are, *first*, to supply the nourishment that takes the place of the decayed particles of the body; and *second*, to furnish the fuel needed to warm the body. Is it not necessary, then, to regulate the food with reference to quality and quantity? If an excess is taken into the system, all the organs are overworked in throwing it off. Good fresh food makes the heart beat quicker, and all the organs of the body work faster. The most stimulating of all food, or that which makes the most new blood, is the flesh of animals, from the fact that it contains more nitrogen than any other.

No person should be confined exclusively to one kind of food, unless it be one which combines all the elements required in nourishing all parts of the body. Persons of full habit and excitable temperament, in order to secure long life, should confine themselves almost exclusively to a diet of bread, fruit, and vegetables. The diet of children should be the same, with the addition of milk. This is far preferable to stimulating animal food.

Remember that the state of health, especially of the di-

gestive organs, is to be regarded. When there is a tendency to constipation, highly concentrated food should be avoided, and fruits, coarse bread, and vegetables be taken. When there is a tendency to diarrhœa, then rice, fine flour, and such food must be sought, and fruits and the like avoided.

Owing to habit or constitution, some kinds of food are better adapted to the stomach of one person than to that of others. Experience should be your guide. Let such food as disturbs the stomach be avoided, of whatever kind it may be. Take no food which you have found difficult to digest. Nothing taxes all the organs of the body so much as food that will not digest properly, and yet must in some way be carried out of the body. Immediately after eating a full meal, vigorous exercise of body or mind should be avoided; one-half hour at least should intervene.

There is no portion of the body so intimately connected with the stomach and the liver as the skin. The custom of physicians to examine the tongue results from the fact of a sympathy which exists between the interior skin and the skin of the tongue, so that any diseased state within the body extends more or less to the mouth, especially to the tongue. Keep the outer skin in perfect health, by which means you secure a healthy stomach.

The health and well-being of all the organs of digestion and nutrition greatly depend upon the daily evacuation of the lower intestines. Regular habits in this respect should be formed and carefully preserved. Never delay when nature prompts to this necessary duty; for such delays tend to produce constipation. There is no rule of health more important than this. Never place in the water-closet for use paper which has printer's ink upon it; it has a tendency to injure the rectum. Pure cold water

taken in moderation, instead of thinning, tends to purify the blood; it is also a remedy for constipation and inaction of the liver.

A delicate person unaccustomed to expose the skin to cold air and cold water, should begin to bathe in a warm room and use tepid water at first, and follow bathing with a good deal of friction. Then each day the water should very slowly and gradually be reduced in temperature, and the air of the room in warmth. It must be remembered that while warm bathing tends to debilitate, cold bathing draws off the animal heat, and may be carried to such an extent as to undermine the constitution. Many young persons have been seriously injured by bathing too often, or staying too long in cold water. The animal heat is thus drawn off faster than the powers of the body can supply it, and the process becomes debilitating.

It is probable that most evils that are developed in cutaneous eruptions result from excess in eating or from a wrong selection of food.

In climates that are unhealthy special care should be taken that the skin be kept clean, and in moving among contagious disorders the keeping of the skin clean and warm, and properly nourished by simple and wholesome food, is the surest preventive from disease.

In order to keep the mind and body in good health periods of recreation are necessary. There must be some amusement taken which will excite laughter. There are a very important set of nerves called the "risible," and they are included for use as much as any others. The brain and body are both exercised by laughter, and all who have attended to physiology and the laws of health declare that nothing is more promotive of good health than a full hearty laugh. I would recommend that in ev-

ery family some portion of each day should be devoted to social and domestic enjoyments ; at least for those whose minds are burdened by cares and duties.

The brain can be made to suffer as severely from inactivity as from any other cause. The want of some noble and engaging pursuit in life, leaving all the faculties and affections without appropriate objects, is one of the most serious evils suffered by man. The selfish pursuit of pleasure soon grows wearisome, and the mind pines for something noble to relieve it ; and this longing is always proportioned to the amount of sensibility of each mind. A low and uncultivated mind can more readily become reconciled to inactivity, or a life filled up with trifles, than one of a higher order. God has given us no faculties of action or feeling which he did not design to have duly exercised in securing enjoyment to ourselves and to our fellow-beings.

What is most needed with our people is that they should learn something of the construction of their own bodies ; the nature of different kinds of food ; and the laws that should regulate their selection. When this is known, use judgment and common sense in this as in all other matters. At the same time, habits of self-control and principles of duty are needed to secure obedience to the dictates of discretion. For want of this how many of the young in our land are following a course which, in multitudes of cases, leads to certain disease, and shortens life.

The quantities of butter, molasses or sugar heaped on hot cakes ; the gravies and fatty cooking ; the stimulating condiments, and the candies and such stuff that abound, are all so many sources of debilitation, disease, and death.

The time and manner of taking food should be regarded.

There should be a period of rest to the brain and muscles before eating. Students and men of business forget this, and often rush to the table with body and mind full of excitement. In this way the stomach is hurried in all its operations; food is thrust into it half masticated. Again, many persons, after eating their three meals a day, will load the stomach just before going to bed, and thus keep up the labor of the system during the period when all its powers should be at rest.

An enormous abuse of the stomach and digestive organs is from the great quantities of quack medicines that are taken in this country. The great objection to taking of medicines, except when prescribed by a careful physician, is that most of them are either poisonous substances or strong stimulants that strain all the vital parts to discharge them from the body, while their operations and results are often a matter of mere chance and guess-work. What is put into the stomach is quickly taken into the circulation and carried all over the body, and if it does good in one point of the wonderfully complicated organs, it may also do as much harm to other portions. But notwithstanding this, men, women and children are pouring down pills and potions to an alarming extent, while vast fortunes are made by ignorant quacks who succeed in poisoning their fellow-creatures by slow processes.

Another part of the human form needs attention. That is the feet. They need as much if not more care than any other part of the form. The reason of this is that the circulation is slower in the extremities, and the slightest interruption there affects the whole body. And yet there is perhaps no part of the person which fashion so much excludes from needful warmth and protection as the feet, especially among the most delicate and sensitive classes of

the community. Multitudes of foolish men and fashionable ladies and young girls wear only a thin pair of shoes or boots in damp and cold weather. Thus the circulation of the lower limbs is impeded, and the blood accumulates in the organs above to an unhealthful amount. Another abuse is that shoes and boots are too often made without the slightest regard to the form of the foot : a mere matter of fashion. The want of width and fullness at the toes is the great evil. This not only prevents circulation, but destroys elasticity of the foot in walking. It is also a painful subject to one who has examined the general run of feet with respect to a model for a sculptor among them. Keep the feet clean and dry, and you will seldom be troubled with cold.

A word of advice to the American women in respect to bodily health and happiness will, I hope, be of some service. When the wife and mother is suffering from the debility and pain of ill health, it not only tends to end her enjoyment of life, but a cloud of gloom settles over the whole family circle. How many of our ladies, by following the custom and fashion bring on themselves sickness and premature old age. Many a beautiful blooming bride at twenty finds herself at thirty or thirty-five wrinkled and care-worn ; unhappy as a wife, and unreasonable as a mother. The young lady who wickedly wastes her health, and receives with scorn and indifference all advice and caution in regard to health, little dreams of the bitter tears she will shed when it is too late. The husband may take great care to protect the fair one of his choice ; he may fondly cherish the wife who is prematurely fading ; still he has no helpmate to share his joys or lighten life's labors. Some sick women grow selfish and forget that in a partnership such as theirs, others suffer when they suf-

fer. But one of the saddest features of evils from this cause is the suffering of young children born from a feeble, sickly, or diseased constitution. In the family where all are healthy may be found joy and happiness, but how gloomy, drear, and sad where sickness abounds.

Bilious complaints usually result from excess of eating. It is the office of the liver to draw off this excess. When the liver is overtaxed it ceases its work. Instead of changing or reducing the food and selecting that which has the least carbon, a dose of calomel is taken; then a cathartic is taken to clear out the calomel. Now the oftener this is done the sooner the constitution will be undermined, till finally a chronic weakness settles on the liver, stomach, or bowels; the appetite fails, and the system becomes so weak that a sort of dying half-life is the result. Simple diet, sleep, and exercise, it can not be too often repeated, are the very best medicines.

Gymnastic exercises strengthen the intellectual faculties, give courage, and produce independence and presence of mind. If you wish to develop the mind, exercise the body: both will be made healthy and strong.

Dyspepsia.

Much has been written and said on this common but lingering disease. The facts learned from experience by my connection with dyspeptics may be useful to those upon whom this disease has fallen. Different cases require different treatment, for it does not always originate from the same cause. It is sometimes the effect of a diseased and deranged liver, creating bilious symptoms; sometimes there is an irritation or inflammation of the coating of the stomach. And often it is caused by debility of the nerves of the stomach, creating a peculiar sensation of

weakness across that organ, particularly after a hearty meal; and also when there is felt the want of food.

There are general rules of diet which apply to each of these different species (and will be found in another part of this work). Every thing should be avoided that is not of easy digestion, or that produces pain or distressing sensations; such as rich pastry; fat meats; hard-boiled eggs; puddings; pies; all kinds of vegetables except good mealy potatoes and tomatoes. The meals should be taken at regular intervals. The stomach should never be overloaded with food, but never allowed to feel the need of it. Drinks weaken the powers of digestion, and should as much as possible be avoided, particularly just before and during a meal. The quantity should not exceed a small glassful—less if the case is bad. Warm drink is far preferable to cold in preventing painful and distressing symptoms.

Dyspepsia produced by the first-mentioned cause is generally obstinate, and depends as much if not more upon prevention than cure. For this daily and active exercise must be taken, accompanied with fresh air, salt-water bathing, hard rubbing, and hand friction. Good fresh fruit, or stewed fruit, prevents the accumulation of bile, and may be used with safety and benefit. The use of bran-bread is good, especially if there is much costiveness.

A pill made of white castile soap two parts, ipecac one part, with mucilage of gum arabic, and of the ordinary size, taken three times a day before eating, greatly assists digestion.

A decoction of hoarhound, tansy, boneset, and worm-wood, with saleratus dissolved in each dose as much as will lie upon a three cent piece, may be taken three times a day between meals, in doses of a small wine-glassful. This stimulates the liver to a healthy action, cleanses

the stomach, quiets the nerves, and is an excellent alterative.

Delicate persons, especially females, should avoid *aloes*; while it corrects the stomach, it produces some of the most incurable and troublesome complaints to which their natures are subject. Mercury in every form should be discarded. In all kinds and every form of dyspepsia it produces lasting injuries and destroys the nervous system.

Where dyspepsia is caused by an inflamed or irritated state of the stomach, white castile soap dissolved in a little warm water and taken three times a day, a tea-spoonful at a time, in a little sweet milk, is an excellent remedy. Every thing of a stimulating or heating nature must be avoided. Gentle exercise and bathing the stomach with tepid lye will be found highly beneficial. The diet must be mostly of good, sweet, well-baked bread—plain or toasted—crackers or farina. As the symptoms abate, the quantity and quality of the food may be increased, though cautiously, and with close attention to its effects.

The last-mentioned species arises from different causes, and is always attended with a distressing sensation of weakness over the region of the stomach, and general loss of strength. It is thought to proceed from a weak or diseased spine in some cases. Whatever may be its origin, the patient is indeed a great sufferer. All powerful and active medicines must be entirely discarded, and the above general rules of diet strictly adopted. Nothing should be put into the stomach but what is of easy digestion, and fully agrees with it.

Prepared chalk gives relief and mitigates this disease. This complaint can not bear any great quantity of liquid without bad effects. The chalk may be obtained at any druggist's, and can be used dry. Eat a small piece when-

ever the stomach feels uneasy or uncomfortable; it will save the patient from much distressing sickness. Prepared chalk is an absorbent, and is also slightly astringent. Its alkaline properties correct acidity without relaxing and weakening the stomach. As a family restorative among children, there is no one remedy upon which dependence may be placed with more confidence as a preventive when the stomach is slightly deranged.

In all species of dyspepsia, experience will eventually teach the attentive mind what causes the great suffering; and lessons thus learned must be practical. Fresh air, careful exercise not to overfatigue, with bathing and friction by towel, brush and hand, are to be constantly used. These will produce a necessity for food. When the stomach is empty, there often comes a feeling of faintness; this may be partially prevented by eating a piece of cracker or toasted bread.

Recovering those Apparently Dead.

If apparently dead from *Drowning*.—For full directions of the methods to be employed in such cases, see the chapter on "Swimming," in a previous part of this work.

If apparently dead from *Intense Cold*.—(1.) Rub the body with snow, ice, or *cold water*. (2.) Restore warmth by slow degrees; and (3) after some time, if necessary, employ the means recommended for the apparently drowned. In cases of freezing it is highly dangerous to apply heat too early.

If apparently dead from *Noxious Vapors*.—(1.) Remove the body into a cool fresh air. (2.) Throw cold water frequently on the neck, face and breast. (3.) If the body be cold, apply warmth as recommended for the apparently drowned.

If apparently dead from *Intoxication*.—Lay the person

on a bed with the head raised; remove the neckcloth and loosen the clothes. Obtain as soon as possible medical assistance, as the treatment must be regulated by the state of the patient, but in the meantime apply cloths soaked in cold water to the head, and bottles of hot water or hot bricks to the calves of the legs and the feet.

If apparently dead from *Apoplexy*.—The patient should be placed in a cool air, with the head well raised, and the clothing loosened, particularly about the neck and breast. Cloths soaked in cold water, spirits, or vinegar and water, should be kept applied to the head. All stimulants should be avoided.

In cases of *Sun-stroke*, the same means to be used as in apoplexy.

Precaution against Lightning.—In a thunder-storm it is dangerous to take shelter under a tree, to approach any kind of metal, or to remain in a draft or near the fire-place. The safest way is to remain in the middle of the room, or if in the open air, to lie down upon the ground.

System of Measurement to Show the Rate of Growth and Development.

Weight.—This should be taken in exercising costume, and when repeated, should always be done at the same time of day, and with reference to any circumstance which might tend to effect its accuracy.

Height.—Position: heels together, the knees straight and braced slightly back; the chin raised, the head held steady; the shoulders square to the front; the heels, hips, shoulders and head touching the wall or the pillar of the standard.

Chest.—Naked breast or skin measurement:—Raise the arms slightly above a horizontal; the tape should now be

passed around the chest in the line of the nipple, and drawn close; the arms dropped to the sides, and the girth reckoned. The chest should not be inflated beyond its due expansion during ordinary breathing. The tape drawn as above will at once give the muscular as well as the respiratory capacity. In selecting men for rowing, the tape should be just above the ninth rib, in order to test the expansion of the chest upon the fullest inspiration.

Fore-Arm.—The arm fully extended, with the hand tightly closed; the tape to be passed around the thickest part of the arm, and its girth at that point given. In men who take little or no exercise the largest part of the forearm will be near the elbow-joint; but with those who have exercised, the greatest girth will be found from two and a half to four inches below it. It is well to keep this circumstance in view, for by that means you will be able to make the actual increase.

Upper-Arm.—The hand tightly closed, but with the arm bent at the elbow, and the hand brought toward the shoulder. This must be slowly and gradually done, the contractions beginning with the muscles of the palm and clenching of the fist. The tape to be passed around the thickest part of the arm. This will be over the prominent muscle on the upper surface called the biceps. It is by the contractions of this muscle that the arm is bent, and with its antagonistic muscle on the obverse side of the arm—the triceps—that it is again extended. When the arm is fully developed, the difference in size between the fore and upper-arm will be about two or two and a half inches. I have invariably noticed that when the upper-arm is feeble, the upper region of the chest will be feeble also—a man with a chest of forty inches should have an upper arm of from thirteen to fourteen inches.

Calf.—The leg must be held stiff and straight; heel raised from the ground, the toes pressed down, the knee braced back. The tape to be passed around the thickest part of the calf. The position of this line will vary with different men, and often with the same limb in different stages of development. In such case place the tape at the point which shows the greatest girth.

Thigh.—The leg placed as in the preceding measurement. The tape to be passed around the largest part of the thigh, and its girth taken.

CHAPTER XX.

RECORD OF TIME.

IN this chapter will be found a brief record of the fastest time known to have been made by man, beast, or vessel.

Walking.

Half-mile in 3 min. 18 sec., by C. Westhall, in England.—One mile in 6 min. 42 sec., by Wm. H. Boyd, in America.—Seven miles in 52 min., by Wm. Spooner, in England.—Eight miles in 59 min. 39 sec., by George Topley, in England.—Ten miles in 1 hour, 14 min. and 49 sec., by George Topley, England.—Twenty miles in 2 hours, 57 min. 2 sec., by Wm. Spooner, in England.

Greatest distance walked in 24 hours, 102 miles, in England.—Wm. Wheeler walked 101 hours without rest or sleep, in England.—One thousand miles in 1000 consecutive hours, at Eaton and Ellsworth, England, by Capt. Barclay.—One hundred miles in 19 hours, over a rough country road, and part of the time through a heavy storm of rain and wind, by Capt. Barclay.

Running.

One hundred yards in 9 sec., by George Seward, in England.—One-quarter of a mile in $48\frac{1}{2}$ sec., by Henry Reed, in England.—Half-mile in 1 min. $56\frac{1}{2}$ sec., by McKinstery, in England.—One mile in 4 min. $17\frac{1}{4}$ sec., by William Richards, in England.—One mile, with four separate starts, 15

min. between each, in 3 min. 52 sec., by Chas. Westhall, in England.—One mile and a half in 6 min. 50 sec., by John Fleet, in England.—Two miles in 9 min. 11 sec., by Lang, in England.—Five miles in 24 min. 57 sec., by Wm. Jackson, better known as “the American Deer,” in England.—Ten miles in 51 min. 34 sec., by Jackson, in England.—Eleven miles in 57 min. 20 sec., by Pudney, in England.—Twenty miles in 1 hour, 58 min. 18 sec., by Maxfield, in England.—Twenty-one miles in 1 hour and 59 min., by C. Westhall, in England.

Greatest Distance in One Hour.—Eleven miles, three hundred and ninety yards, by Jackson, in England.

Running Jump.

Twenty-nine feet, seven inches, in one running jump, by Howard Chester, in England.

Standing Jump.

Twelve feet, five inches, by Norman Bortles.

Throwing Base Ball.

One hundred and sixteen yards, two feet, by J. Hatfield. This is the greatest distance thrown in public.

Throwing Cricket Ball.

One hundred and twelve yards. This is the greatest distance a ball has been thrown in public. By Adams, in England.

Skating.

One mile in 1 min. 56 sec., by Wm. Clark. This is said to have been beaten in January, 1866, by Donheur, of Newburg, he having performed the mile in 1 min. 52½ sec.—Thirty miles in 1 hour, by George Seward.

Billiards.

Best run (616) by Joseph Dion, in a match game, May, 1867.—Best time in a game of 1500 points, 2 hours, 40 min., by Joseph Dion.—Were made 565 on the two reds around the table, the balls at no time being “jawed,” by John McDevitt, July 15th, 1867.

Pigeon Shooting.

John Taylor, of Jersey City, N. J., in the great match for \$4000, against Robert Newel, of Buffalo, N. Y., which took place at Syracuse, N. Y., October, 1865, killed 98 birds out of the 100, Newel killing 94. This great feat was accomplished with 50 double birds, 18 yards rise, 100 yards boundary, 1½ ounce shot.—In a previous match at the same place, between the same two persons, at 100 single birds, 21 yards rise, 80 yards boundary, 1½ ounce shot, Taylor killed 94 out of the 100, Newel 92 out of the 100. This is the best pigeon shooting upon record in any part of the world.

Pistol Shooting.

Travis *vs.* Suydam.—In the great match between the above-named crack shots, which took place in the city of New York, in 1856, Travis hit the figure of an ordinary size man, at the distance of ten paces, forty times in succession—the terms of the match being that each man should fire 40 shots by word of command. On the word “Fire—one !” as above stated, every shot took effect ; but in consequence of not firing upon the instant the word was given upon the ninth shot, the judges declared one “No shot.” Suydam, according to the judges’ decision, missed two shots. Travis in 1854–5 performed the wonderful feat of shooting an apple from off the head, and also out of the hand, of a living man.

Lifting.

Twenty-seven hundred and thirty-seven and three-fourth lbs. ($2737\frac{1}{2}$), with straps or harness, by Ambrose A. Butts, of Auburn, Ohio.—Twelve hundred and fifty lbs. (1250), without straps or harness, by Dr. Winship, of Mass. It is said that Dr. Winship has lifted 2,600 lbs. with his harness, but not in public.—One hundred and sixty (160) lb. dumb-bell, the largest ever fairly put up with one hand, by W. Thomson, at Chicago.

Horse Running.

Many and various have been the stories told of the great speed of English race-horses in the olden times; but as there is nothing definite in regard to the distances or time being correct, they must be taken with at least some little degree of doubt. I fancy it would be difficult for any one under the circumstances to vouch for the truth of all the reports we have heard in regard to this subject. It is said that a horse called "Firetail" in 1772 ran one mile in 1 min. and 4 sec.

The celebrated horse "Flying Childers" ran over the Newmarket Course, which is said to be by correct measurement three miles, six furlongs, and ninety-three yards, in 6 min. 40 sec., and a few months after upon the Beacon Course, a distance of four miles, one furlong, and one hundred thirty-eight and one-quarter yards, in 7 min. 30 sec. It is also recorded that Flying Childers went one-half mile in 20 seconds. In the race upon the Beacon Course, his stride or leap was measured and found to be a trifle over thirty feet—this upon a part of the course that was perfectly level. He was never known to cover less than twenty-five feet at every stride when racing.

"Eclipse" is said to have run a mile in one minute in 1741, at the Curragh in Ireland.

Mr. Wilde rode one hundred and twenty-seven miles in 6 hours, 21 min., employing ten horses in the performance of the feat.

In 1745, Mr. Thornhill rode from Stilton to London and back, and again to London, two hundred and thirteen miles, in 11 hours, 34 min.

In 1752, Mr. Shaftoe, with ten horses, five of which were ridden twice, accomplished fifty-eight and one-quarter miles in 1 hour, 49 minutes.

In 1786, Mr. Hull's "Quibbler" ran twenty-three miles upon the Newmarket Course or flat, in 57 min. 10 sec.

In 1831, Geo. Osbaldiston performed the most wonderful task of riding two hundred miles in 8 hours, 39 min., using in the feat twenty-eight horses, many of them two, and some three times.

One mile in 1 min. 39 sec., by Gladiateur, in England.
 —One mile in 1 min. 42½ sec., by Henry Parritt, in America.
 —Two miles in 3 min. 36½ sec., by Berry, in America.—
 Three miles in 5 min. 28 sec., by Brown Dick, in America.
 —Four miles in 7 min. 19¾ sec., by Lexington, in America.
 —One mile, two furlongs, seventy-three yards in 2 min. 10 sec., by Saunterer, in England.—Two miles in 3 min. 25 sec., by Inheritor, in England.—Three miles in 5 min. 21 sec., by Rataplan, in England.

Horse Leaping.

Over Water: 39 feet, by Chandler, in England.—*Over Hurdles:* 34 feet, by Calverthorpe, in England.—*Over Stone Wall:* 33 feet, by Lottery, in England.

Horse Pacing.

One mile in 2 min. 17½ sec., by Pocahontas, in America.

Horse Trotting.

One mile in harness, in 2 min. $16\frac{3}{4}$ sec., by Dexter.—One mile in 2 min. 15 sec., by Ethan Allen, with running mate.—One mile, under saddle, in 2 min. $18\frac{1}{2}$ sec., by Dexter.—Two miles in harness, in 4 min. $50\frac{1}{2}$ sec., by Flora Temple.—Three miles under saddle, in 7 min. $32\frac{1}{2}$ sec., by Dutchman.—Ten miles in harness, in 28 min. $8\frac{1}{2}$ sec., by Prince.—Twenty-one miles in harness, in 58 min. 25 sec., by the celebrated horse, Captain McGowan.—One hundred miles in harness, in 8 hours, 55 min. 53 sec., by Conqueror.

Steamships.

Scotia sailed from the stream opposite Jersey City, December 16, 1863, at 11 A. M.; arrived at Liverpool 1.40 P. M. on the 25th, making the passage in 8 days, 21 hours, 44 minutes.—San Francisco to Panama in 11 days and 4 hours, by the *Golden Gate*.

River Steamers.

New York to Albany, in 6 hours, 21 minutes, by the *Alida*.—Greatest number of miles in the hour—in 1864 the *Daniel Drew* made twenty-seven miles in one hour.

Sailing Vessels.

Under this head it may not be uninteresting to give the following extract from an old English paper. It is something really worth knowing, as much for its historical importance as for the singular notice that was taken of the ship at the time, by one of the great leaders in the legislature of that empire:

“*House of Commons, Feb. 7th, 1783.*—Mr. Hammett begged leave

to inform the House of a very recent and extraordinary event. The ship *Bedford*, Captain Moores, arrived in the Downs on the 3d of February, passed Gravesend on the 4th, and was reported at the Custom House the 6th. She was not allowed regular entry until some consultation had taken place between the Commissioners of the Customs and the Lords of Council, on account of the many Acts of Parliament yet in force against the Rebels in America. She is loaded with 487 butts of whale oil, is American built, manned wholly with American seamen, wears the Rebel colors, and belongs to the Island of Nantucket, Massachusetts.

"This is the first vessel which displayed the Thirteen Rebellious Stripes of America in any British port. The vessel lies at Horseley Down, a little below the Tower, and is intended immediately to return to New England."

After this, the first American vessel which appeared in a foreign port, the following are the most noted swift passages:

James Bairnes, from Boston to Liverpool in 12 days, 6 hours.—*Northern Light*, from San Francisco to Boston in 76 days, 8 hours.—*Flying Scud* made 460 miles in twenty-four hours. This is beyond all doubt the greatest rate of speed that has ever been known for a sailing-vessel to have made.—American Yacht *Henrietta*, December 11, 1866, from New York to (Cowes) England, in 13 days, 22 hours, and 46 minutes, in the great ocean race for a purse of ninety thousand dollars.

Rowing.

All who take an interest in boating must regret exceedingly that so little attention was paid in former years in keeping correct time of the important regattas and match races. I know at the present day there are many who would take an interest in reading of these interesting events, had we a correct guide in regard to distances and

time. But it appears that in the early history of boating in this country, that matter was entirely lost sight of, there being no record kept. We must therefore content ourselves with merely the notice of some of those of the most importance, where time and distance were known to be correct.

Twelve miles—Eight oars, in 1 hour, 34 min. 30 sec., on Charles River, Boston, Sept. 13th, 1855, by the *Superior* of St. Johns, N. B.

Nine miles—Eight oars, in 1 hour, 7 min. 34 sec., on Charles River, Boston, July 18th, 1855, by the *Maid of Erin* of Boston.

Six miles—Four oars, in 42 min. 14 sec., Sept. 20th, 1856, on Charles River, Boston, by the *Neptune* of St. Johns, N. B.

Five miles—Four oars, in 34 min. 54 sec., turning two stake-boats twice, or making four complete turns, by the *Wm. H. Tarboss*, June 23, 1856, on Harlem River, N. Y.

Five miles—Four oars, in 32 min. 44 $\frac{3}{4}$ sec., making three turns, by the *Geo. J. Brown*, Sept. 10th, 1860, on Harlem River, N. Y.—Sept. 30th, 1865, at Pittsburg Regatta, five miles, won by Pittsburg boat *Friendship*; time, 32 min. 26 sec.

At the Beacon Regatta in 1858, Mr. R. F. Clark, an amateur, won, rowing two miles in 14 min. 54 sec. In 1859 he is said to have rowed the same distance in 13 min. 52 sec.

Three miles—Single sculls, in 22 min. 30 sec., by James Hamill.

Three miles—Six oars, in 17 min. 42 $\frac{1}{2}$ sec., by the Yale University crew, July 28, 1865.

It is recorded that Robert Chambers, in his match with White for the championship of England, rowed over the

usual course from Putney to Mortlake, which is called four and a half miles, in 23 min. 25 sec.

Speed of Locomotives.

England.—The Duke of Wellington, in a special train, was conveyed from Paddock to Slough, a distance of 18 miles, in 15 min.

New York.—In June, 1855, the locomotive *Hamilton Davis*, on the New York Central Road, with six cars, ran 14 miles in 11 min. 7 sec.

Pennsylvania.—An express train over the Pennsylvania Central, ran 10 miles in 7 min. 30 sec.

Ballooning.

JOHN WISE, the celebrated aeronaut, has moved in a clear atmosphere at the rate of a mile in 42 sec. He repudiates the idea that hurricanes move with the velocity of one hundred miles an hour, and states that he has often sailed in currents above the storm, and invariably found such current to be the greatest.

WM. D. BANMISTLE, in 1855, sailed from Adrian, Michigan, to Clarion county, Penn., a distance of 350 miles, in 4 hours.

MONS. GODDARD moved seven miles in 5 min.

GUY LUSSAC, on September 6th, 1804, from the city of Paris, ascended in a balloon to the height of 23,000 feet.

Birds Flying.

Falcon.—A falcon, belonging to Henry IV. of France, escaped from Fontainebleau, and in twenty-four hours after was found in Malta, a distance of not less than 1300 miles.

Eider Duck flies at the rate of 90 miles an hour.

Sparrow about 30 miles an hour.

Swallow flies at the rate of from 90 to 95 miles an hour.

Pigeon flies at the rate of 60 miles an hour.

Sound travels at the rate of from 800 to 900 miles an hour.

Cannon Balls travel at the rate of from 1000 to 1100 miles an hour.

THE END.







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